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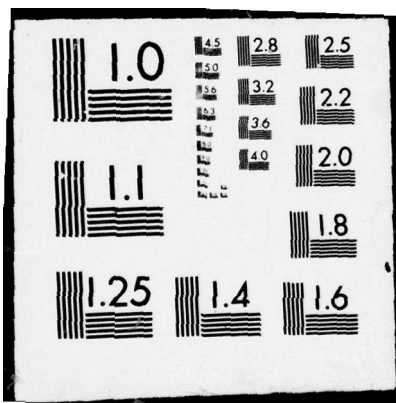F/G 5/9

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BROOKS AIR FORCE BASE, TEXAS

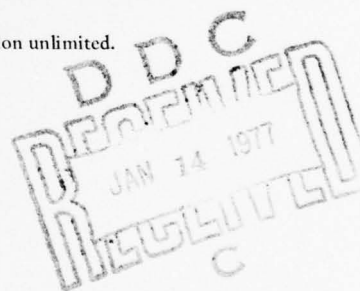OCTOBER 1976

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AIR FORCE &

# HUMAN RESOURCES

AIRMAN JOB PERFORMANCE ESTIMATED
FROM TASK PERFORMANCE RATINGS

By

Llewellyn N. Wiley

OCCUPATION AND MANPOWER RESEARCH DIVISION
Lackland Air Force Base, Texas 78236

October 1976
Final Report for Period January 1968 — December 1972

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WILLIAM H. POPE, Lt Col, USAF
Chief, Occupation and Manpower Research Division


Approved for publication.

DAN D. FULGHAM, Colonel, USAF
Commander

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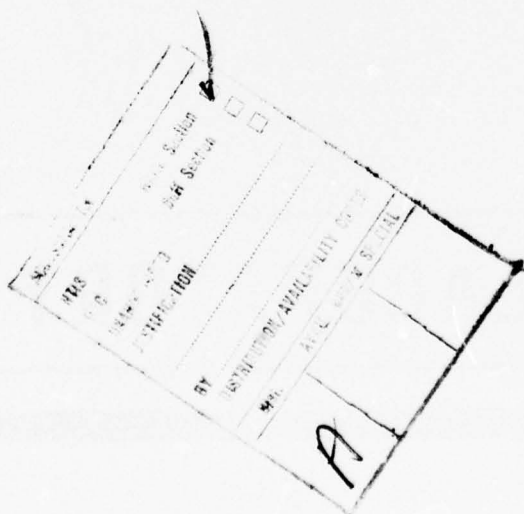
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| overall performance | |

20. ABSTRACT (Continue on reverse side if necessary and identify by block number)

An experiment was conducted to determine if a job performance criterion could be developed from averaging airman performance of separate tasks. Airmen who had completed job inventories in the supply field, AFSCs 645X0 and 647X0 from all commands and locations in 1967–1968 were rated by two supervisors in a confidential study. The immediate supervisor and an other supervisor were demanded, with complete rating data and an acceptable job inventory. Despite stringent stipulations, 244 airmen, representing all supply levels and locations, were rated by two supervisors, providing 488 independent sets of ratings. These included an overall rating, ratings on 65 work behavioral traits, performance ratings on all tasks the supervisor was certain the airman performed, and a time-to-train rating on each task in the inventory. The mean task performance rating and the mean task trainability

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rating were computed. The three criteria of overall performance rating, mean task performance rating, and mean task trainability rating were compared through cross-correlations and cross-regressions, using both the 244 airmen data and the maximum set of 488 observations. The cross-validity of the overall criterion was .58, compared with .56 for the mean task performance rating and .43 for the mean task trainability rating. The regressions showed large contributions from the work behavior ratings, but from the data of record, including grade and job difficulty indices, the contributions were nonsignificant. The mean task performance rating was not cost effective for lower level airmen from the standpoint of rating time consumed. However, the possibility remained open that it might be cost effective for upper level airmen when combined with securing information about the requirements of unusual tasks.

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# AIRMAN JOB PERFORMANCE ESTIMATED FROM TASK PERFORMANCE RATINGS

## I. PURPOSE AND BACKGROUND

Over a number of years there have been attempts to improve the evaluation of the job performance of individual airmen. General dissatisfaction exists with the use of global performance ratings, with numerous efforts having been made to suppress the inflationary tendencies that operate when such judgments are used to reward and affect the individual. Even when a supervisor knows that his rating will not influence the future of his subordinate, the tendency to render the benefit of the doubt persists.

Nevertheless, some form of performance measure is badly needed for many purposes — to assess the depth of training required to handle complex tasks, to serve as a criterion for the selection of job qualified personnel, to establish cutoff points for the termination of on-the-job training, to set the length of courses, and so on and on. Although emphasis traditionally makes promotion the goal of performance measurement, it is not, from the standpoint of personnel management, necessarily the most important reason for job performance assessment. In fact, a technique which supplies data about the execution of job elements would have unique value. With these facts in mind, an experiment was made to determine if a criterion of job performance could be obtained in a way that did not require the rater to make a unitary overall assessment. The results of that experiment are outlined. While not by any means the first attempt to evaluate Air Force personnel at the task level, it is the first time the tasks of an operational job inventory were used to derive an overall job performance rating. The concept underlying this approach was that each task rating was a separate measure, and that all of an airman's task performance ratings ought to produce a more stable estimate than a single act or rating. Although the purpose of the study was simple enough, the necessary statistical controls were inherently complicated. Those dealing with job inventory data will be touched upon in this report.

The obvious way to obtain supervisor estimates of an airman's performance without making an overall rating is to have the supervisor rate an airman on the performance of each task in his job. With job inventories available, it would seem to be quite easy. The separate task performance ratings could be combined in a number of ways to compute an overall estimate, and the rater need not be asked to make a global rating. With proper task rating instructions he might not even consider the collective effect of his separate ratings. The experiment was done, but there were complications. If a supervisor is given an inventory and told to rate a subordinate on each task he does, one can be sure that the supervisor will render a set of ratings, and out of these ratings an overall estimate will emerge. It could be worthless. One needs to know whether another supervisor rating the same airman would agree; whether, in fact, supervisors agree on identifying the tasks an airman does. Thus, the experiment had to be conducted with job incumbents whose completed job inventories were immediately available, since it is the incumbents who report which tasks they do.

That is not all, though. The experiment was intended to learn whether or not a task performance rating method would yield an overall performance criterion as good as, or better than, a single global rating. As a matter of fact, it had to be better because it would require a great deal of supervisor time to make the task ratings. There was yet another complication. If one must show that the average task performance rating was as good as or better than a global rating, he must obtain both kinds of ratings on the same airman, by the same supervisor, at approximately the same time. In effect, the experimenter is faced with a contradiction in procedure, since he must obtain a global rating, even though the act of making it might affect the task performance ratings, or vice versa. The experiment was carried on anyway, with an overall rating and ratings on job behaviors made first. It was hoped that by having the raters seal these up before opening a packet containing the job inventory for task ratings the setting would change from general evaluation to specifics. The instructions required this order of procedure because the quick and easy rating job had to be done first to keep from losing raters.

There has been a much larger and more detailed Air Force effort directed toward evaluating job performance at the task level since this study was done. (Contract F41609-71-C-0010, Development of Task Level Job Performance Criteria, with the American Institutes for Research.) It is expected that a great deal of valuable information about tasks and task performance will be gained from it, information of a sort

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that cannot possibly be obtained from the data reported here. The contract study is a massive research, and there are two characteristics of the present study which are in contrast to the contract effort: (a) the present study attempted a test of a rating situation which was close to operational conditions, with consideration given to the practical costs involved in an operational application; and (b) it made no attempt to select tasks, but it attempted to procure airman ratees at all skill levels, disproportionately increasing the low and high level job incumbents' numbers.

## II. DATA

The job inventory covered two ladders in the supply field, Inventory Management, Air Force specialty code (AFSC) 645X0, and Materiel Facilities, AFSC 647X0. There were 281 tasks. This inventory was used extensively from 1967 to 1970, with approximately 3,400 airmen being surveyed. Job types identified by means of the inventory were described by Phalen (1968). Phalen's sample included many of the airmen rated in the present study. They were scattered throughout all bases and command sources, and represented all grades.

### Job Difficulty Indexes

Application of the Comprehensive Occupational Data Analysis Programs (CODAP) (see Christal, 1974), provides three measures of an incumbent's job difficulty: Job Difficulty Index (JDI) (also called Job Difficulty Composite (JDC)), Number of Tasks Performed (NTP), and Average Task Difficulty per Unit Time (ATDPUT). The basic measures ATDPUT and NTP are combined in a formula developed by Mead (Mead, 1970). Ratings by noncommissioned officers (NCO) on the relative time to learn each task are stored as means in CODAP and applied to each incumbent's estimate of the percent of time he spends doing the task, to provide an individual's ATDPUT. The three difficulty measures used in these analyses were collected on the inventory of this study, using difficulty ratings made by NCOs in the same AFSCs as the incumbents independently of this study.

### The Samples

After records with incomplete data were removed, there remained 244 airmen with two raters and all desired information. These airmen represented most major commands and were drawn from the continental United States, Alaska, and three foreign bases, Ramstein, Clark, and Lajes. There numbers were as stated in Table 1:

*Table 1.* **Data Samples**

| Career Ladder | AFSC | N |
|---|---|---|
| Inventory Management, lower level | 64530+64550 | 99 |
| Inventory Management, upper level | 64570+64590 | 63 |
| Materiel Facilities, lower level | 64730+64750 | 52 |
| Materiel Facilities, upper level | 64770+64790 | 30 |

### Performance Ratings

Names of airmen who had completed job inventories were selected, and their bases were requested to have them rated by two supervisors in a confidential study. The immediate supervisor was specifically requested as one rater, and as a second rater another supervisor who was well acquainted with the airman and his job. Owing to the heavy requirement levied against the supervisor's time, no supervisor was asked to rate more than one subordinate. A few rated two, however. Supervisors were asked not to discuss the study with anyone and to return the materials sealed.

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Military and civilian supervisors first provided data about themselves. They then completed a check list which indicated the amount of their contact with the subordinate (Appendix A). Then followed the overall performance rating and ratings on 65 job behavioral traits. These materials constituted Packet I (see Appendix A). After sealing this packet, supervisors completed Packet II materials (see Appendix B). The job inventory listed all tasks in the occupational specialty, but the rater had no report as to which tasks the incumbent had identified as part of his job. A supervisor was to rate a subordinate's performance on each task that he was sure his subordinate was doing, using for comparison the performance of other known airmen. Then he was to estimate his subordinate's ability to learn satisfactorily every task in the inventory, including those the incumbent was currently doing. The scale was time-to-learn, shown in Appendix B (Job Inventory, training required column). Upon completion of these ratings, the supervisor was to append a job description if the airman held an additional assignment that was not covered by the listed tasks. (This added information caused the dropping of several cases whose jobs were outside the supply field.) The rater then estimated the time consumed for each packet. Self-data, contact check list, overall performance rating, and ratings on 65 traits appear to have required about 30 to 40 minutes. However, the second packet of task ratings required a minimum of two hours for most supervisors, and some raters reported up to six hours. It is probable that only an hour would have been required to rate performance alone, without ratings on task trainability. This would make a considerable difference for the longer job inventories.

## III. ANALYSIS METHODS

### Limiting Conditions

Several analytic approaches were employed to overcome problems raised by the small number of acceptable cases. These approaches are briefly outlined. Acceptable cases had complete information.

Earlier studies had shown that skill levels differed in respect to the importance of traits (trait patterns) that accounted for job success (Wiley, 1969; Wiley & Cagwin, 1968). It was therefore important to break down the population into subsamples by skill level. The previous work had been done on the criterion of overall performance for which cross-validations had been computed. The present study introduced two new criteria, the mean of task performance ratings and the mean of task trainability ratings. The paramount goal of this study was to determine if the cross-validity of either of these two criteria equalled or exceeded that of the overall performance rating. Lower cross-validities would demand that task performance ratings provide new and otherwise unobtainable data if they were to replace overall ratings. To establish the cross-validities of the new criteria on an equal footing with the overall performance rating it was necessary that every incumbent be evaluated on all three criteria, each airman being rated on the same variables by two supervisors. In order to test the equivalence of "immediate" and other supervisors, records were rejected if both the raters reported that they were immediate or other than immediate supervisors. Finally, the study introduced job inventory data as predictors of the criteria. This meant that each ratee must have provided a job inventory that passed quality control screening. Despite these restrictions, the resulting sample of 244 incumbents appears to have been representative of the entire population for whom any ratings were returned, based upon analyses not reported here. (The larger sample, including data from one rater or two of the same kind of rater was analyzed by the same methods.)

### Total Sample Analyses

Some questions could be answered by analyses of the undivided sample. This was done by multiple linear regression, using all the predictor data (Bottenberg & Ward, 1963). Regression analyses were used throughout this study.

Throughout these descriptions, a predictor rated by supervisor A correlated with a criterion rated by supervisor B, produces the coefficient called a cross-validity. When a trait (predictor) rated by A is correlated with the same trait rated by B, the coefficient is called a reliability. Traits have one reliability coefficient but two cross-validities. The latter arise when a trait rated by A predicts a performance rated by B, and when the same trait rated by B predicts the performance rated by A.

The first question was: Would the three criteria show equal cross-correlations? That is, if one correlated the criterion ratings assigned by immediate supervisors with those assigned the same incumbents

by the other supervisors, would the three different criteria have equivalent coefficients? The emphasis throughout this report is upon criterion correlations between raters and cross-validating regression predictions. The reason for this is that performance evaluations must be confirmable from another source to be generally applicable to Air Force problems.

The second question was: Would the regression predictions of the three criteria differ systematically? There are two kinds of regression predictions that can be considered, the one in which the trait rating predictors were produced by the same supervisors who made the criterion ratings, and the one in which the predictor raters did not make the criterion ratings, the cross-validation regressions. Since this study is aimed at understanding the composition of overall ratings, the analyses include the question of the importance of a specific behavioral trait in both situations, predictor and criterion sources the same, and predictor and criterion sources not the same.

The third question was: Is it necessary to retain the distinction between immediate and other supervisors throughout the data analyses? Comparison of the means and standard deviations of the ratings assigned by the two types of raters gave some justification for doubling the number of observations per correlation by combining the two sets of data since they were not markedly different. Justification in the sense that the two kinds of raters were equivalent arose from separate analyses which have been published elsewhere (Wiley, 1975). Statistical tests of the significance of differences when the data were separated into AFSCs and skill levels required that the Ns of the samples be larger than afforded by the 244 available cases. It was also desired to include other kinds of data as predictors, data that are here called "demographic" to identify them as a matter of record rather than judgment. This increased the number of predictors, again demanding larger samples for statistical tests. Subsequent analyses used each airmen twice, as though his two rating records represented different airmen. This duplicated the demographic data, and for that reason such analyses were used only for internal analyses of the relative influence of predictors. Complex questions arise in making significance tests where half of a set of predictors is repeated. However, where the purpose is to obtain internal comparisons, the procedure can be justified. In this case, only those tests involving demographic data used repeated observations.

## Analyses of the Separated AFSC and Skill Level Samples

As a result of analyses in which it was attempted to collapse the 65 behavioral trait ratings into 10 dimensions, it was found that there was too much overlap among the dimensions to make such a substitution. Ten traits, each descriptive of the intended dimension, were selected to replace the 65 predictors. These choices were based upon the findings of other studies (Wiley & Cagwin, 1968). Analyses from this point forward involve just 10 trait rating predictors and 7 demographic rating predictors. The trainability rating was dropped from the statistical tests as a result of its lower predictability found in the first of these analyses. The following questions were asked:

Do systematic differences appear when the prediction $R^2$s are compared for the different kinds of criteria? That is, can one see by inspection that one kind of criterion is consistently better predicted than another among the AFSC and skill level groups?

Did the demographic data make large contributions in accounting for any of the criteria? If so, which variables contributed?

Did the individual trait predictors make significant contributions in the presence of 9 other trait ratings? If so, could such contributions be interpreted by reference to AFSC or skill level?

In summary, the analyses were first concerned with the cross-correlations of the three types of criteria. Next, the analyses looked into the comparative regression predictions of the three criteria. Then the question of increasing the number of cases by treating airman as two ratees was decided in favor of doing so, but for internal comparison purposes only where demographic data were involved.

## IV. RESULTS

Would the three criteria show equal cross-correlations? Table 2 provides the answer. (Table 2 carries the intercorrelations through the 10 traits that were later selected for regression analyses. All 65 behavioral traits are given in Appendix A with correlations, validities against the two performance criteria for both

*Table 2.* **Intercorrelations of Data U**

| Variable Description | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 Overall Perf., other | 1.000 | **577** | 246 | 241 | 078 | 707 | 547 | 295 | 213 | 176 | 646 | 271 | 747 | 7 |
| 2 Overall Perf., Immed. | **577** | 1.000 | 301 | 236 | 070 | 556 | 711 | 288 | 262 | 204 | 109 | 273 | 507 | 4 |
| 3 Grade | 246 | 301 | 1.000 | 832 | 053 | 314 | 341 | 437 | 411 | 603 | 402 | 667 | 305 | 3 |
| 4 Skill Level | 241 | 236 | 832 | 1.000 | 018 | 266 | 322 | 439 | 408 | 529 | 334 | 610 | 263 | 3 |
| 5 Incumbent in 645X0 | 078 | 070 | 053 | 018 | 1.000 | 026 | 020 | −025 | −017 | 062 | −032 | 184 | 100 | 0 |
| 6 Average Task Perf., other | 707 | 556 | 314 | 266 | 026 | 1.000 | **564** | 497 | 313 | 167 | 095 | 235 | 534 | 5 |
| 7 Average Task Perf., Immed. | 547 | 711 | 341 | 322 | 020 | **564** | 1.000 | 331 | 424 | 293 | 190 | 307 | 489 | 4 |
| 8 Average Train., other | 295 | 288 | 437 | 439 | −025 | 497 | 331 | 1.000 | **429** | 322 | 255 | 300 | 250 | 2 |
| 9 Average Train., Immed. | 213 | 262 | 411 | 408 | −017 | 313 | 424 | **429** | 1.000 | 322 | 217 | 365 | 225 | 2 |
| 10 Job Difficulty Index | 176 | 204 | 603 | 529 | 062 | 167 | 293 | 322 | 322 | 1.000 | 874 | 477 | 170 | 1 |
| 11 Number of Tasks | 046 | 109 | 402 | 334 | −032 | 095 | 190 | 255 | 217 | 874 | 1.000 | 161 | 023 | 0 |
| 12 Average Task Difficulty | 271 | 273 | 667 | 610 | 184 | 235 | 307 | 300 | 365 | 477 | 161 | 1.000 | 311 | 3 |
| 13 Even temper, other | 747 | 507 | 305 | 263 | 100 | 534 | 489 | 250 | 225 | 170 | 023 | 311 | 1.000 | 7 |
| 14 Sense of humor other | 749 | 471 | 358 | 334 | 068 | 588 | 459 | 284 | 260 | 194 | 059 | 333 | 701 | 1.0 |
| 15 Enthusiasm other | 724 | 435 | 116 | 123 | 049 | 541 | 424 | 269 | 214 | 074 | −035 | 184 | 709 | 6 |
| 16 Likes to talk other | 795 | 485 | 234 | 201 | 086 | 603 | 457 | 247 | 181 | 164 | 074 | 229 | 728 | 6 |
| 17 Informs other | 840 | 520 | 304 | 282 | 174 | 664 | 513 | 374 | 241 | 216 | 105 | 266 | 688 | 7 |
| 18 Perfectionist other | 820 | 529 | 308 | 273 | 125 | 656 | 481 | 342 | 254 | 243 | 133 | 272 | 688 | 7 |
| 19 Military bearing other | 794 | 498 | 289 | 267 | 067 | 675 | 525 | 325 | 244 | 217 | 127 | 244 | 688 | 7 |
| 20 Safety other | 782 | 464 | 277 | 256 | 113 | 656 | 467 | 335 | 199 | 237 | 157 | 231 | 684 | 7 |
| 21 Can read T.O.s other | 817 | 508 | 369 | 330 | 149 | 666 | 491 | 394 | 293 | 292 | 166 | 334 | 716 | 7 |
| 22 Sees good men other | 799 | 511 | 379 | 324 | 130 | 693 | 517 | 378 | 315 | 295 | 183 | 326 | 695 | 7 |
| 23 Even temper, Immed. | 486 | 759 | 284 | 246 | 076 | 415 | 618 | 207 | 249 | 214 | 136 | 233 | **549** | 4 |
| 24 Sense of humor Immed. | 524 | 789 | 355 | 303 | 043 | 438 | 665 | 225 | 284 | 282 | 177 | 274 | 485 | 4 |
| 25 Enthusiasm Immed. | 536 | 764 | 229 | 170 | 056 | 428 | 610 | 176 | 234 | 183 | 096 | 253 | 533 | 4 |
| 26 Likes to talk Immed. | 512 | 769 | 316 | 252 | 126 | 454 | 628 | 213 | 281 | 237 | 140 | 266 | 478 | 4 |
| 27 Informs others Immed. | 552 | 820 | 387 | 291 | 127 | 484 | 637 | 283 | 294 | 264 | 159 | 311 | 510 | 4 |
| 28 Perfectionist Immed. | 534 | 791 | 338 | 262 | 109 | 520 | 674 | 273 | 321 | 246 | 155 | 302 | 447 | 4 |
| 29 Military bearing Immed. | 500 | 796 | 325 | 240 | 061 | 459 | 641 | 198 | 289 | 213 | 124 | 304 | 484 | 4 |
| 30 Safety Immed. | 571 | 821 | 335 | 250 | 074 | 524 | 656 | 284 | 318 | 249 | 145 | 303 | 553 | 5 |
| 31 Can read T.O.s Immed. | 491 | 828 | 344 | 281 | 123 | 447 | 702 | 228 | 312 | 257 | 149 | 329 | 472 | 4 |
| 32 Sees good men Immed. | 503 | 841 | 410 | 349 | 169 | 501 | 718 | 290 | 376 | 296 | 179 | 371 | 469 | 4 |

[a]Criterion − items 1, 2, 6 thru 9.
Demographic − 3 thru 5, 10 thru 12
Trait − 13 thru 32.

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Table 2. Intercorrelations of Data Used Once; Criterion, Demographic, and 10 Trait Predictors[a]

| 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 295 | 213 | 176 | 046 | 271 | 747 | 749 | 724 | 795 | 840 | 820 | 794 | 782 | 817 | 799 | 486 | 524 | 536 | 512 | 552 | 534 |
| 288 | 262 | 204 | 109 | 273 | 507 | 471 | 435 | 485 | 520 | 529 | 498 | 464 | 508 | 511 | 759 | 789 | 764 | 769 | 820 | 791 |
| 437 | 411 | 603 | 402 | 667 | 305 | 358 | 116 | 234 | 304 | 308 | 289 | 277 | 369 | 379 | 284 | 355 | 229 | 316 | 387 | 338 |
| 439 | 408 | 529 | 334 | 610 | 263 | 334 | 123 | 201 | 282 | 273 | 267 | 256 | 330 | 324 | 246 | 303 | 170 | 252 | 291 | 262 |
| 025 | -017 | 062 | -032 | 184 | 100 | 068 | 049 | 086 | 174 | 125 | 067 | 113 | 149 | 130 | 076 | 043 | 056 | 126 | 127 | 109 |
| 497 | 313 | 167 | 095 | 235 | 534 | 588 | 541 | 603 | 664 | 656 | 675 | 656 | 666 | 693 | 415 | 438 | 428 | 454 | 484 | 520 |
| 331 | 424 | 293 | 190 | 307 | 489 | 459 | 424 | 457 | 513 | 481 | 525 | 467 | 491 | 517 | 618 | 665 | 610 | 628 | 637 | 674 |
| 1.000 | 429 | 322 | 255 | 300 | 250 | 284 | 269 | 247 | 374 | 342 | 325 | 335 | 394 | 378 | 207 | 225 | 176 | 213 | 283 | 273 |
| 429 | 1.000 | 322 | 217 | 365 | 225 | 260 | 214 | 181 | 241 | 254 | 244 | 199 | 293 | 315 | 249 | 284 | 234 | 281 | 294 | 321 |
| 322 | 322 | 1.000 | 874 | 477 | 170 | 194 | 074 | 164 | 216 | 243 | 217 | 237 | 292 | 295 | 214 | 282 | 183 | 237 | 264 | 246 |
| 255 | 217 | 874 | 1.000 | 161 | 023 | 059 | -035 | 074 | 105 | 133 | 127 | 157 | 166 | 183 | 136 | 177 | 096 | 140 | 159 | 155 |
| 300 | 365 | 477 | 161 | 1.000 | 311 | 333 | 184 | 229 | 266 | 272 | 244 | 231 | 334 | 326 | 233 | 274 | 253 | 266 | 311 | 302 |
| 250 | 225 | 170 | 023 | 311 | 1.000 | 701 | 709 | 728 | 688 | 688 | 688 | 684 | 716 | 695 | 549 | 485 | 533 | 478 | 510 | 447 |
| 284 | 260 | 194 | 059 | 333 | 701 | 1.000 | 666 | 679 | 732 | 727 | 749 | 712 | 788 | 748 | 438 | 488 | 433 | 425 | 475 | 422 |
| 269 | 214 | 074 | -035 | 184 | 709 | 666 | 1.000 | 702 | 698 | 705 | 727 | 660 | 717 | 666 | 453 | 424 | 472 | 382 | 420 | 442 |
| 247 | 181 | 164 | 074 | 229 | 728 | 679 | 702 | 1.000 | 773 | 813 | 773 | 739 | 740 | 753 | 519 | 501 | 476 | 509 | 469 | 498 |
| 374 | 241 | 216 | 105 | 266 | 688 | 732 | 698 | 773 | 1.000 | 823 | 793 | 806 | 814 | 838 | 442 | 479 | 454 | 457 | 548 | 504 |
| 342 | 254 | 243 | 133 | 272 | 688 | 727 | 705 | 813 | 823 | 1.000 | 811 | 805 | 802 | 822 | 475 | 500 | 473 | 478 | 519 | 524 |
| 325 | 244 | 217 | 127 | 244 | 688 | 749 | 727 | 773 | 793 | 811 | 1.000 | 791 | 768 | 786 | 538 | 539 | 524 | 483 | 516 | 496 |
| 335 | 199 | 237 | 157 | 231 | 684 | 712 | 660 | 739 | 806 | 805 | 791 | 1.000 | 793 | 779 | 430 | 442 | 451 | 454 | 487 | 444 |
| 394 | 293 | 292 | 166 | 334 | 716 | 788 | 717 | 740 | 814 | 802 | 768 | 793 | 1.000 | 810 | 427 | 508 | 480 | 453 | 498 | 476 |
| 378 | 315 | 295 | 183 | 326 | 695 | 748 | 666 | 753 | 838 | 822 | 786 | 779 | 810 | 1.000 | 471 | 486 | 461 | 483 | 536 | 493 |
| 207 | 249 | 214 | 136 | 233 | 549 | 438 | 453 | 519 | 442 | 475 | 538 | 430 | 427 | 471 | 1.000 | 820 | 776 | 747 | 715 | 709 |
| 225 | 284 | 282 | 177 | 274 | 485 | 488 | 424 | 501 | 479 | 500 | 539 | 442 | 508 | 486 | 820 | 1.000 | 773 | 763 | 776 | 764 |
| 176 | 234 | 183 | 096 | 253 | 533 | 433 | 472 | 476 | 454 | 473 | 524 | 451 | 480 | 461 | 776 | 773 | 1.000 | 749 | 751 | 710 |
| 213 | 281 | 237 | 140 | 266 | 478 | 425 | 382 | 509 | 457 | 478 | 483 | 454 | 453 | 483 | 747 | 763 | 749 | 1.000 | 703 | 719 |
| 283 | 294 | 264 | 159 | 311 | 510 | 475 | 420 | 469 | 548 | 519 | 516 | 487 | 498 | 536 | 715 | 776 | 751 | 703 | 1.000 | 796 |
| 273 | 321 | 246 | 155 | 302 | 447 | 422 | 442 | 498 | 504 | 524 | 496 | 444 | 476 | 493 | 709 | 764 | 710 | 719 | 796 | 1.000 |
| 198 | 289 | 213 | 124 | 304 | 484 | 474 | 439 | 438 | 476 | 483 | 568 | 425 | 452 | 484 | 781 | 797 | 787 | 718 | 807 | 812 |
| 284 | 318 | 249 | 145 | 303 | 553 | 512 | 502 | 543 | 537 | 551 | 569 | 518 | 538 | 539 | 806 | 825 | 779 | 763 | 812 | 758 |
| 228 | 312 | 257 | 149 | 329 | 472 | 452 | 396 | 470 | 450 | 471 | 482 | 410 | 507 | 495 | 785 | 840 | 754 | 755 | 769 | 780 |
| 290 | 376 | 296 | 179 | 371 | 469 | 438 | 389 | 474 | 483 | 501 | 471 | 436 | 492 | 517 | 736 | 763 | 725 | 749 | 828 | 809 |

…, Demographic, and 10 Trait Predictors*

| 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 840 | 820 | 794 | 782 | 817 | 799 | 486 | 524 | 536 | 512 | 552 | 534 | 500 | 571 | 491 | 503 |
| 520 | 520 | 498 | 464 | 508 | 511 | 759 | 789 | 764 | 769 | 820 | 791 | 796 | 821 | 828 | 841 |
| 304 | 308 | 289 | 277 | 369 | 379 | 284 | 355 | 229 | 316 | 387 | 338 | 325 | 335 | 344 | 410 |
| 282 | 273 | 267 | 256 | 330 | 324 | 246 | 303 | 170 | 252 | 291 | 262 | 240 | 250 | 281 | 349 |
| 176 | 125 | 067 | 113 | 149 | 130 | 076 | 043 | 056 | 126 | 127 | 109 | 061 | 074 | 123 | 167 |
| 664 | 656 | 675 | 656 | 666 | 693 | 415 | 438 | 428 | 454 | 484 | 520 | 459 | 524 | 447 | 501 |
| 513 | 481 | 525 | 467 | 491 | 517 | 618 | 665 | 610 | 628 | 637 | 674 | 641 | 656 | 702 | 718 |
| 376 | 362 | 325 | 335 | 394 | 378 | 207 | 225 | 176 | 213 | 283 | 273 | 198 | 284 | 228 | 290 |
| 241 | 254 | 244 | 199 | 293 | 315 | 249 | 284 | 234 | 281 | 294 | 321 | 289 | 318 | 312 | 376 |
| 216 | 243 | 217 | 237 | 292 | 295 | 214 | 282 | 183 | 237 | 264 | 246 | 213 | 249 | 257 | 296 |
| 105 | 133 | 127 | 157 | 166 | 183 | 136 | 177 | 096 | 140 | 159 | 155 | 124 | 145 | 149 | 179 |
| 266 | 272 | 244 | 231 | 334 | 326 | 233 | 274 | 253 | 266 | 311 | 302 | 304 | 303 | 329 | 371 |
| 688 | 688 | 688 | 684 | 716 | 695 | **549** | 485 | 533 | 478 | 510 | 447 | 484 | 553 | 472 | 469 |
| 732 | 727 | 740 | 712 | 788 | 748 | 438 | **488** | 433 | 425 | 475 | 422 | 474 | 512 | 452 | 438 |
| 698 | 705 | 727 | 660 | 717 | 666 | 453 | 424 | **472** | 382 | 420 | 442 | 439 | 502 | 396 | 389 |
| 773 | 813 | 773 | 739 | 740 | 753 | 519 | 501 | 476 | **509** | 469 | 498 | 438 | 543 | 470 | 474 |
| 1.000 | 823 | 793 | 806 | 814 | 838 | 442 | 479 | 454 | 457 | **548** | 504 | 476 | 537 | 450 | 483 |
| 823 | 1.000 | 811 | 805 | 802 | 822 | 475 | 500 | 473 | 478 | 519 | **524** | 483 | 551 | 471 | 501 |
| 793 | 811 | 1.000 | 791 | 768 | 786 | 538 | 539 | 524 | 483 | 516 | 496 | **568** | 569 | 482 | 471 |
| 806 | 805 | 791 | 1.000 | 793 | 779 | 430 | 442 | 451 | 454 | 487 | 444 | 425 | **518** | 410 | 436 |
| 814 | 802 | 768 | 793 | 1.000 | 810 | 427 | 508 | 480 | 453 | 498 | 476 | 452 | 538 | **507** | 492 |
| 838 | 822 | 786 | 779 | 810 | 1.000 | 471 | 486 | 461 | 483 | 536 | 493 | 484 | 539 | 495 | **517** |
| 442 | 475 | 538 | 430 | 427 | 471 | 1.000 | 820 | 776 | 747 | 715 | 709 | 781 | 806 | 785 | 736 |
| 479 | 500 | 539 | 442 | 508 | 486 | 820 | 1.000 | 773 | 763 | 776 | 764 | 797 | 825 | 840 | 763 |
| 454 | 473 | 524 | 451 | 480 | 461 | 776 | 773 | 1.000 | 749 | 751 | 710 | 787 | 779 | 754 | 725 |
| 457 | 478 | 483 | 454 | 453 | 483 | 747 | 763 | 749 | 1.000 | 703 | 719 | 718 | 763 | 755 | 749 |
| **548** | 519 | 516 | 487 | 498 | 536 | 715 | 776 | 751 | 703 | 1.000 | 796 | 807 | 812 | 769 | 828 |
| 504 | **524** | 496 | 444 | 476 | 493 | 709 | 764 | 710 | 719 | 796 | 1.000 | 812 | 758 | 780 | 809 |
| 476 | 483 | **568** | 425 | 452 | 484 | 781 | 797 | 787 | 718 | 807 | 812 | 1.000 | 832 | 803 | 815 |
| 537 | 551 | 569 | **518** | 538 | 539 | 806 | 825 | 779 | 763 | 812 | 758 | 832 | 1.000 | 826 | 826 |
| 450 | 471 | 482 | 410 | **507** | 495 | 785 | 840 | 754 | 755 | 769 | 780 | 803 | 826 | 1.000 | 849 |
| 483 | 501 | 471 | 436 | 492 | **517** | 736 | 763 | 725 | 749 | 828 | 809 | 815 | 826 | 849 | 1.000 |

kinds of raters.) The relevant statistics are: .577, the correlation between raters for the overall performance rating; .564, the corresponding correlation for the mean task performance rating criterion; and .429, for the mean task trainability rating. For 244 observations, the value .577 is significantly different from .564 at the .01 confidence level, and the value .429 is very significantly lower than either. Squaring .577 and .564, shows substantial predictions of 33 and 32 percent, respectively, of the criterion variance from the corresponding rating by a different rater.

Would regression predictions of the three criteria differ systematically? Table 3 provides the $R^2$s obtained when 65 trait ratings were used as predictors against the three criteria. The lower half of Table 3 gives the cross-validation regression predictions. The prediction of the trainability ratings is distinctly lower than that of the other two criteria. The overall performance rating was slightly more predictable than the mean of task ratings. The greatest difference is 5 percent in favor of the overall rating. However, it should be remarked that the task performance scale was 7 point and the overall rating scale was 9 point. There is some evidence that 9-point scales yield slightly higher predictions than 7-point scales. Its relevance to these findings is a matter of speculation.

*Table 3.* **$R^2$s for Three Criteria, Using Trait Ratings as Predictors[a]**

*N = 244 airmen*

| | Criterion | | |
| --- | --- | --- | --- |
| | Overall Performance Rating | Mean Task Performance Rating | Mean Trainability Rating |
| **Criterion Raters Also Rated the Traits** | | | |
| Rater was other supervisor, 20th iteration[b] | .867 | .628 | .307 |
| final iteration | .881 | .672 | .417 |
| Rater was immediate supervisor, 20th iteration[b] | .872 | .631 | .307 |
| final iteration | .889 | .673 | .405 |
| **Criterion Raters Were Not the Trait Raters** | | | |
| Criterion rater was immediate supervisor, | | | |
| 20th iteration[b] | .461 | .453 | .265 |
| final iteration | .510 | .506 | .351 |
| Criterion rater was other supervisor, | | | |
| 20th Iteration[b] | .462 | .413 | .222 |
| final iteration | .527 | .483 | .338 |

[a] All 65 trait ratings were used as predictors in the regression equations.

[b] The regression routines continue to iterate until the contribution to $R^2$ falls below a set stop criterion (here .0001 was used). For practical purposes it is often desirable to identify an earlier cut off point, particularly if many variable predictors are used with relatively small total samples.

The goal, up to this point, has been to compare the reliability and cross-validity of two job performance criteria. This, however, is not the whole problem of the study. Previous research (employing the same job behavior trait ratings) had revealed that the composition of elements best predicting overall performance ratings differed among the skill levels, and to some extent between career ladders. If the mean of task ratings were to be used as a substitute performance criterion, would its prediction depend upon factors which differentiate overall performance between skill levels? If so, would the important ingredients be the same? To accomplish these tests it was necessary to employ the experimental observations fully, taking advantage of the largest permissible number of observations per correlation coefficient. By treating

an airman as though he were two airmen, the full 488 sets of observations could be used to compute a correlation coefficient, and this was done in the analyses which follow. This permitted breakdown into subsamples, whose characteristics are given in Table 4, comparing them to the total samples separated by kinds of raters (in the top rows of Table 4). Table 4 shows expected differences between the performance ratings of low and high level airmen, and also that there was very little difference between the mean ratings assigned by the immediate and other supervisors. Airmen in the Inventory Management ladder, AFSC 645X0, appear to have received slightly higher ratings than AFSC 647X0 airmen.

*Table 4.* **Criterion Means and Standard Deviations by Samples**

| Sample | Number of Ratings | Overall Performance Rating | | Mean of Task Performance Ratings | | Mean of Task Trainability Ratings | |
|---|---|---|---|---|---|---|---|
| | | Mean | SD | Mean | SD | Mean | SD |
| Other | 244 | 6.984 | 1.180 | 5.406 | 0.832 | 5.327 | 1.084 |
| Immediate supervisors | 244 | 7.086 | 1.375 | 5.438 | 0.925 | 5.347 | 0.983 |
| Supervisors combined to produce 2 observations per ratee | 488 | 7.035 | 1.282 | 5.422 | 0.880 | 5.337 | 1.035 |
| **Ladders combined, skill levels separated** | | | | | | | |
| 64X30+64X50 | 302 | 6.815 | 1.312 | 5.249 | 0.948 | 5.031 | 1.008 |
| 64X70+64X90 | 186 | 7.393 | 1.146 | 5.704 | 0.665 | 5.833 | 0.874 |
| **Ladders separated, skill levels combined** | | | | | | | |
| 645X0[a] | 324 | 7.102 | 1.271 | 5.436 | 0.917 | 5.321 | 1.048 |
| 647X0[b] | 164 | 6.092 | 1.295 | 5.394 | 0.802 | 5.368 | 1.008 |
| **Ladders and skill levels separated** | | | | | | | |
| 64530+64550 | 198 | 6.884 | 1.311 | 5.255 | 0.995 | 4.999 | 1.005 |
| 64570+64590 | 126 | 7.444 | 1.124 | 5.721 | 0.688 | 5.828 | 0.905 |
| 64730+64750 | 104 | 6.683 | 1.303 | 5.237 | 0.854 | 5.094 | 1.011 |
| 64770+64790 | 60 | 7.283 | 1.185 | 5.667 | 0.613 | 5.844 | 0.805 |

[a] 645X0 = Inventory Management ladder.
647X0 = Materiel Facilities ladder.

Do systematic differences appear when the prediction $R^2$s are compared for the different kinds of criteria? Table 5 provides the across-rater coefficients and Table 6 provides the regression comparisons in the form of $R^2$s. The $R^2$s of chief interest are in the lower half of Table 6. In accordance with the philosophy of this report, $R^2$s are discounted where the criterion rater also rated the airman's traits. However, in both halves of Table 6 it is evident that the trainability criterion was consistently less predictable than the other two.

Comparing the upper and lower halves of Table 6, it is seen that on cross-validation the $R^2$s for overall ratings shrank to almost the same level as the shrunken values for the mean task performance criterion. The numeric losses were necessarily larger, but the important point is the amount of prediction afforded after shrinkage, 32 percent minimum in all cases, with one exception. That exception was the higher level inventory management personnel, whose overall performance predictability dropped to 24 percent, and whose mean task performance predictability stayed above the 32 percent level of 36. Since this was a respectable sample of 126 observations per correlation, the direction of the difference in predictabilities for the two criteria could have meaning.

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Table 5. Correlations with and among Criteria Using the Maximum 488 Observations

| Variable | Combined Sample N = 488 | | | 645X0, Inventory Management Ladder Lower Level N = 198 | | | Upper Level N = 125 | | | 647X0, Materiel Facilities Ladder Lower Level N = 104 | | | Upper Level N = 60 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | A | B | C | A | B | C | A | B | C | A | B | C | A | B | C |
| **Criterion Variables** | | | | | | | | | | | | | | | |
| Overall Performance (column A) | 568[a] | 546 | 254 | 550 | 540 | 292 | 409 | 409 | 127 | 666 | 631 | 088 | 513 | 401 | 150 |
| Mean Task Performance (column B) | 546 | 560 | 322 | 540 | 465 | 319 | 409 | 557 | 262 | 631 | 469 | 126 | 401 | 365 | 221 |
| Mean Task Trainability (column C) | 254 | 322 | 427 | 292 | 319 | 420 | 127 | 262 | 181 | 088 | 126 | 379 | 221 | 221 | 150 |
| **Demographic Variables** | | | | | | | | | | | | | | | |
| Grade | 275 | 328 | 424 | 075 | 153 | 180 | 182 | 304 | 343 | 248 | 270 | 151 | 336 | 282 | 236 |
| Skill level | 237 | 295 | 424 | 061 | 162 | 142 | 182 | 326 | 292 | -063 | -065 | 302 | 403 | 286 | 112 |
| Incumbent in 645X0 | 074 | 023 | -021 | – | – | – | – | – | – | – | – | – | – | – | – |
| Rater was immediate supervisor | 040 | 018 | 009 | 027 | -004 | 069 | 071 | 065 | -084 | -022 | -025 | -033 | 155 | 142 | 079 |
| Job difficulty index | 190 | 233 | 321 | 110 | 114 | 053 | 056 | 114 | 141 | -034 | 039 | 230 | 214 | 274 | 331 |
| Number tasks performed | 080 | 144 | 237 | 054 | 064 | 009 | -040 | 103 | 107 | -115 | -075 | 172 | 139 | 212 | 295 |
| Average task difficulty | 271 | 272 | 330 | 164 | 155 | 067 | 166 | 142 | 260 | 188 | 191 | 282 | 179 | 140 | 094 |
| **Behavioral Trait Ratings** | | | | | | | | | | | | | | | |
| Even temper | 491 | 448 | 215 | 553 | 449 | 177 | 263 | 279 | 116 | 514 | 481 | 105 | 334 | 339 | 077 |
| Sense of humor | 492 | 446 | 241 | 536 | 418 | 189 | 296 | 332 | 088 | 470 | 455 | 084 | 467 | 392 | 229 |
| Enthusiasm | 479 | 422 | 192 | 524 | 399 | 205 | 321 | 351 | 102 | 547 | 537 | 101 | 297 | 200 | 095 |
| Garrulous | 495 | 454 | 198 | 496 | 422 | 208 | 374 | 385 | 169 | 510 | 514 | 025 | 431 | 299 | 023 |
| Informs others | 531 | 497 | 263 | 502 | 473 | 294 | 436 | 423 | 110 | 550 | 536 | 114 | 522 | 376 | 119 |
| Perfectionist | 525 | 496 | 263 | 535 | 475 | 283 | 382 | 388 | 187 | 517 | 522 | 057 | 486 | 448 | 112 |
| Military bearing | 496 | 492 | 219 | 495 | 441 | 188 | 392 | 487 | 258 | 498 | 516 | -010 | 389 | 322 | -049 |
| Safety alertness | 511 | 493 | 246 | 523 | 447 | 254 | 360 | 472 | 151 | 558 | 538 | 055 | 376 | 323 | 131 |
| Can read Tech. Orders | 496 | 467 | 257 | 506 | 455 | 240 | 361 | 320 | 112 | 432 | 467 | 085 | 485 | 392 | 089 |
| Recognizes good men | 502 | 506 | 301 | 489 | 475 | 271 | 363 | 447 | 157 | 529 | 514 | 132 | 381 | 312 | 181 |

[a] Decimal points have been omitted. The values in the diagonals could have been omitted. The values in the diagonals could have been extracted from Table 2, and appear as slightly larger in Table 2. The algorithm computed these values from two vectors multiplied as follows: $a_1b_1, a_2b_2, \ldots, a_{244}b_{244}, b_1a_1, b_2a_2, \ldots, b_{244}a_{244}$.

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*Table 6.* R$^2$ Comparing 3 Criteria in Various Combinations

| Sample | N | 10 Traits + 7 Demographic Predictors[a] | | | 7 Demographic Predictors Alone[a] | | |
|---|---|---|---|---|---|---|---|
| | | Overall Rating | Task Rating Mean | Trainability Rating Mean | Overall Rating | Task Rating Mean | Trainability Rating Mean |
| **Criterion Raters Also Rated the Traits** | | | | | | | |
| Undivided sample | 488 | .813 | .556 | .275 | .097 | .115 | .207 |
| Ladders combined, levels separated | | | | | | | |
| 64X30 + 64X50 | 302 | .790 | .513 | .157 | .058 | .071 | .067 |
| 64X70 + 64X90 | 186 | .846 | .682 | .208 | .088 | .139 | .123 |
| Ladders separated, levels combined | | | | | | | |
| 645X0 | 324 | .809 | .581 | .294 | .086 | .117 | .210 |
| 647X0 | 164 | .837 | .607 | .318 | .140 | .187 | .227 |
| Ladders and levels separated | | | | | | | |
| 64530 + 64550 | 198 | .787 | .533 | .193 | .041 | .082 | .061 |
| 64570 + 64590 | 126 | .850 | .745 | .271 | .053 | .136 | .157 |
| 64730 + 64750 | 104 | .841 | .610 | .252 | .125 | .169 | .160 |
| 64770 + 64790 | 60 | .889 | .649 | .439 | .235 | .171 | .141 |
| **Criterion Raters Were Not the Trait Raters** | | | | | | | |
| Undivided sample | 488 | .345 | .321 | .236 | .097 | .115 | .207 |
| Ladders combined, levels separated | | | | | | | |
| 64X30 + 64X50 | 302 | .375 | .307 | .131 | .058 | .071 | .067 |
| 64X70 + 64X90 | 186 | .289 | .300 | .149 | .088 | .139 | .123 |
| Ladders separated, levels combined | | | | | | | |
| 645X0 | 324 | .332 | .321 | .256 | .086 | .117 | .210 |
| 647X0 | 164 | .382 | .393 | .288 | .140 | .187 | .227 |
| Ladders and levels separated | | | | | | | |
| 64530 + 64550 | 198 | .380 | .298 | .157 | .041 | .062 | .061 |
| 64570 + 64590 | 126 | .242 | .360 | .249 | .053 | .136 | .157 |
| 64730 + 64750 | 104 | .447 | .445 | .217 | .125 | .169 | .160 |
| 64770 + 64790 | 60 | .504 | .346 | .353 | .235 | .171 | .141 |

Note. — 645X0 = Inventory Management
647X0 = Materiel Facilities

[a]Tables 5 and 7 list the demographic variables.

Did the demographic data make significant contributions in accounting for the variance of any of the criteria? If so, which variables contributed? Table 7 supplies the results of a series of regression problems in which the 488 observation sample was used and each of the demographic variables was removed and replaced to obtain the restricted models in the presence of the trait ratings. The only significantly contributing variable appears to have been membership in one of the two AFSCs, and this predictor contributed only for the ratings in which the criterion rater was also the trait rater. The findings of Table 7 apply to comparisons within this study and are not offered as a basis for generalizations.

Additonal analyses were made which are not tabulated here. The cross-validation portion of the analyses is discussed as follows. A single trait rating was added to the prediction (restricted model) of the overall criterion and the mean task rating criterion to make a series of 8-predictor full models using the 7 demographic predictors as the base. The demographic predictors accounted for 9.70 percent of the overall performance rating and 11.53 percent of the mean task performance rating. The addition of any one of the

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**Table 7.** Unique Contributions of Demographic Predictors
Sample of 488 Observations

| Predictor System | Criterion, Overall Performance Rating | | | Criterion, Mean Task Performance Rating | | |
|---|---|---|---|---|---|---|
| | $R^2$ Full Model | $R^2$ Restricted Model | Probability[a] | $R^2$ Full Model | $R^2$ Restricted Model | Probability[a] |
| **Criterion Raters Also Rated the Traits** | | | | | | |
| 10 traits + 7 demographic predictors | .8130 | | | .5563 | | |
| Grade removed | | .8116 | .062 | | .5563 | .840 |
| Skill level removed | | .8130 | .906 | | .5553 | .305 |
| Ladder identification removed (in 645X0) | | .8102 | .008[b] | | .5512 | .020[b] |
| Rater was immediate supervisor removed | | .8127 | .412 | | .5562 | .802 |
| Job difficulty index removed | | .8128 | .450 | | .5563 | .816 |
| Number of tasks performed removed | | .8122 | .150 | | .5563 | .882 |
| Average task difficulty removed | | .8129 | .666 | | .5563 | 1.000 |
| **Criterion Raters Were Not the Trait Raters** | | | | | | |
| 10 traits + 7 demographic predictors | .3450 | | | .3212 | | |
| Grade removed | | .3447 | .650 | | .3200 | .351 |
| Skill level removed | | .3450 | .886 | | .3200 | .349 |
| Ladder identification removed (in 645X0) | | .3449 | .771 | | .3189 | .200 |
| Rater was immediate supervisor removed | | .3422 | .155 | | .3199 | .333 |
| Job difficulty index removed | | .3439 | .368 | | .3212 | .886 |
| Number of tasks performed removed | | .3435 | .303 | | .3213 | 1.000 |
| Average task difficulty removed | | .3438 | .363 | | .3208 | .567 |

[a]$df_1 = 1$; $df_2 = 470$  These degrees of freedom do not take account of the double use of demographic data and the significances are interpretable only for internal comparison purposes.

[b]This value is significant at or beyond the .05 confidence level when compared with the other values in the prediction system. The value .8102 was subtracted from .8130, and .5512 from .5563, and the F-test applied to the difference to establish probabilities of 8 and 20 chances in a thousand that the difference would occur as the result of chance.

10 trait ratings raised the $R^2$, or accountability, drastically. The lowest $R^2$ was .2347, the highest .3031, or 23.47 percent to 30.31 percent variance prediction of the two criteria. If one accepts the computation of significances without concern for the repeated use of the demographic variables in the 488 observation sample, all of these contributions would be significant beyond the .001 level of confidence. It is clear that within the relationships of these performance criteria the behavioral trait ratings made significant contributions to accounting for either criterion.

Did the individual trait predictors make significant contributions to predicting job performance ratings when used in the presence of 9 other trait ratings? If so, could such contributions be interpreted by reference to AFSC or skill level? The regression problems reported in Table 8 reveal that when the rater was both the trait and criterion rater, some of the traits made very significant contributions, but that when cross-validation data were used, the separate trait contributions were nonsignificant for the mean task performance criterion. Two trait ratings showed some significance for the overall criterion. These results are for the undivided sample. Additional analyses were run for the samples divided as in Table 6. The results were similar to those for the undivided sample.

In Table 8, the fact that two ratings were made on the same airman is irrelevant because the instructions of the study preserved the independence of the two ratings. One can generalize to the extent of saying that in the supply ladder the overall judgment of a rater reflects differences he rates on behavioral traits. There is some sharing between raters on cross-validation. When the criterion is the mean of task performance ratings, the specificity of trait judgments is lost.

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*Table 8.* Unique Contributions of Trait Rating Predictors with Maximum Observations
*Observation = 488*

| Trait Number and Description | Criterion Overall Performance Rating | | Criterion Mean Task Performance Rating | |
|---|---|---|---|---|
| | $R^2$ | Probability[a] | $R^2$ | Probability[a] |
| **Criterion Raters Also Rated the Traits** | | | | |
| Full model, 10 trait rating predictors | .8130 | | .5563 | |
| 1 Even temper rating removed | .8107 | .018[b] | .5560 | .579 |
| 4 Sense of humor rating removed | .8128 | .513 | .5562 | .731 |
| 8 Enthusiasm rating removed | .8127 | .391 | .5562 | .727 |
| 12 Garrulous rating removed | .8081 | .001[b] | .5553 | .308 |
| 17 Informs others rating removed | .8015 | .000[b] | .5563 | .928 |
| 20 Perfectionist rating removed | .8109 | .024[b] | .5533 | .076 |
| 21 Military bearing rating removed | .8129 | .574 | .5554 | .340 |
| 33 Safety alertness rating removed | .8121 | .127 | .5552 | .272 |
| 49 Can read tech orders rating removed | .8067 | .000[b] | .5497 | .008[b] |
| 63 Recognizes good men rating removed | .8084 | .001[b] | .5410 | .000[b] |
| **Criterion Raters Were Not the Trait Raters** | | | | |
| Full model, 10 trait rating predictors | .3450 | | .3213 | |
| 1 Even temper rating removed | .3422 | .159 | .3196 | .297 |
| 4 Sense of humor rating removed | .3449 | .780 | .3202 | .382 |
| 8 Enthusiasm rating removed | .3434 | .289 | .3212 | .806 |
| 12 Garrulous rating removed | .3435 | .304 | .3208 | .589 |
| 17 Informs others rating removed | .3387 | .034[b] | .3192 | .231 |
| 20 Perfectionist rating removed | .3382 | .027[b] | .3176 | .111 |
| 21 Military bearing rating removed | .3448 | .741 | .3197 | .300 |
| 49 Can read tech orders rating removed | .3447 | .629 | .3208 | .553 |
| 63 Recognizes good men rating removed | .3449 | .764 | .3192 | .234 |

[a]$df_1 = 1$; $df_2 = 479$.

[b]Significant value: probability less than 5 chances in 100 that the difference (Full model−Restricted model) would occur as the result of chance.

## V. DISCUSSION

The study was made to determine if it is feasible to assess a job incumbent's overall performance by summating separate task performance ratings. A question is raised by the necessity to have the task performance raters also act as global performance raters. This was a rigid experimental requirement because global ratings by the same raters were necessary to compare the cross-validities of the two criteria without question as to the equivalence of the rating sources. That is, it was necessary for the global ratings used for comparison to be made by the same raters at about the same time. Statistically, the results of the experiment should show that the mean task performance ratings yield as high cross-correlations as the overall ratings. The two obtained r's were .577 for the overall cross-correlation and .564 for the mean task performance cross-correlation. For practical use, the task rating cross-correlation should be higher because of the time spent in task performance rating. It is a matter of conjecture as to whether the raters became "locked in" to their original overall estimates, and then simply made trait ratings and subsequent task ratings with variations on the original judgment. Such a condition should be recognized as a possibility. To answer the question, one would need a study in which a set of raters provide only global ratings, and another set of raters provide only task ratings on the same job incumbents. Without the present study

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having been made, such a study would raise more questions than it could answer. In effect, there was no substitute for the procedures of this study in the light of existing time, personnel, and information about the way task performance raters would behave.

Some bits of evidence from these data suggest that the raters were not repeating their original estimates. One form of evidence is found in the regression predictions on cross-validation. Using 65 trait ratings as predictors, the prediction of overall performance ratings shrank to about the same cross-validation level as that of the task performance prediction, but both shrinkages stopped far above chance prediction. The $R^2$ comparison was a drop from .813 to .345 for the overall rating and a drop from .556 to .321 for the mean task performance rating. These values are directly interpretable in percents, with the lower values representing 34.5 and 32.1 percent accountability of the criterion variance. That is, after shrinkage there remained substantial prediction of the criterion variance which could not be attributed to rater set because the raters were different.

Continuing with the bits of evidence that ratings were not repetition, it should be mentioned that the data were reviewed by individual rating booklet to determine if there was considerable variance within a given rater's task and trait ratings. Variance was pronounced and it was present at all skill levels. Had there been little or no variance within evaluations of an airman, particularly on trait ratings, the cross-validation process would probably have reduced prediction to trivial values below the 32 percent level observed.

A final increment of evidence for concluding the independence of task performance ratings was to be found by examining the trainability ratings. A number of tasks performed by upper level personnel involved protection of high value and war critical supplies. These, along with tasks involving the accountability for classified materiel, were commonly assigned lower trainability ratings than the average for the incumbent in question, regardless of his level. It is presumed that this rating tendency reflected conservatism regarding critical tasks. Thus it seems possible that the rater's task of evaluating the trainability of an incumbent may have influenced him against making blanket judgments. (The performance and trainability scales, shown in Appendix B, appeared together and would probably have been read with the first task.)

A question arose in the analyses as to how to test the two criteria for samples broken down by ladder and skill level, when only 244 airmen comprised the ratees. The availability of two complete sets of data on each individual permitted cross-validations with a total sample of 488, if one accepted the ratings by different supervisors as independent measures. Since this was part of the instructions of the study, that the raters were not to communicate with others about the study, the ratings were treated as independent variables. Of course the ratees were correlated highly with themselves, but this is not a deterrent in the regression analysis methods used. However, a more serious question arose when demographic variables were included in the analyses because each airman's grade or other measure was repeated. The results can be used for comparison of relationships within the study, but cannot be applied outside of it. The issue proved to be moot because demographic variables made no significant contributions to cross-validated predictions obtainable from trait ratings, and probably would not have on correction of the significances for repeated data.

The foregoing considerations suggest that an average of task performance ratings would be a feasible and valid measure of job performance. But it would not be cost effective for lower level airmen, since it would not add much information to an overall rating and would require considerable rater time. Specifically, when the data for lower level Inventory Management airmen were broken out for cross-validation, the prediction of the overall criterion was 38 percent and that of the mean task performance criterion was 30 percent, with the corresponding breakout for Material Facilities airmen giving 45 percent prediction for either criterion. The same conclusion should not be drawn for upper level airmen, whose jobs contained many tasks, some of which were critical. The small sample of high level Materiel Facilities airmen showed 50 percent prediction of the overall criterion and 35 percent of the mean task criterion on cross-validation, but the larger sample of high level Inventory Management airmen showed only 24 percent prediction of the overall criterion and 36 percent prediction of the mean task performance criterion, a reversal falling below the 32 percent prediction level for the overall criterion. The analyses leave uncertain the difference between the mean task rating criterion prediction and that of the overall performance rating for higher level airmen under cross-validation. The mean task rating procedure may have advantages for certain purposes.

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## VI. CONCLUSIONS

A study was performed in which airman job incumbents in the supply field were rated on their performance of tasks listed in an operational job inventory. They were also rated on the length of time it would take to train them to perform every task in the inventory, including the ones that they were doing. Before making the task ratings, two supervisors independently rated each airman on overall performance and 65 job behavioral traits. The rated incumbents had completed job inventories, they were selected to represent all enlisted skill levels, and they provided a wide coverage of Air Force jobs. The purpose of the study was to determine if a substitute for a single global performance rating could be made by averaging performance ratings assigned to the same airmen on separate tasks. The statistical controls required stringent adherence to complete data on all incumbents, and the experimental requirements demanded considerable supervisor time to rate task performance and trainability. The result was a select sample of only 244 job incumbents with two sets of complete data. Each incumbent provided job inventory data, from which were obtained job difficulty indexes that were included in the analyses. Also, the supervisor data included estimates of rating time consumed.

The critical test was that of cross-correlations, from which it was found that 33 percent of the overall performance variance was accountable from the opposite rater and that 32 percent of the mean task performance variance was similarly accountable. Higher cross-validations were found from trait rating regression problems. In terms of rater time consumed the mean task performance rating effort would not be cost effective. However, when the number of ratings was maximized by treating the two sets of ratings on an airman as though they were for different ratees, it became possible to analyze the data by skill level. The results altered the general conclusions by revealing that the mean task performance ratings of upper skill level airmen behaved differently on cross-validation than did those of lower skill level airmen. Combining both supply ladders and skill levels, 32 percent prediction was found for either criterion, but upon separating the samples by ladder it was found that the mean task performance criterion was better predicted for higher level Inventory Management personnel. There may be circumstances, when acquiring data about unusual tasks or unusual jobs, in which the mean task performance rating approach would be significantly better than an overall performance rating approach.

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*APPENDIX A:* LIST OF TRAITS AND TRAIT STATISTICS
INSTRUCTIONS AND CONTENTS OF PACKET 1

**Name of Ratee**

Card 01:  Case Control Number _____
                                                        1-4

_____
            Last Name              5-22      First Name                    Initial

_____
            Grade      23

_____
PREFIX 24-25    AFSN   NUMBER 26-33

_____
PREFIX 34    DAFSC   NUMBER 35-39 SUFFIX 40

_____
        Air Command   41

_____
            Organization   42-68                                Base  69-72

_____
            Assignment                   Card 02:  (CASE NUMBER 1-4)   5-73


**Name of Rater**

Card 03:  (CASE NUMBER 1-4)

Name of Rater  _____  Grade _____
                    Last      5-22    First           Initial                      23

AFSN _____  Duty AFSC _____
            PREFIX 24-25    NUMBER 26-33                    PREFIX 34    NUMBER 35-39    SUFFIX 40

Job Title  _____
                                            NO PUNCH

_____
                                            NO PUNCH

Base _____
                        41-44

Address where personal communication can be sent      _____
                                                                    NO PUNCH

_____
                            NO PUNCH              Time Scale (Encircle)

                            25 min or less. . . . .1      1 hr 16 min to 1 hr 45 min. . . . . ...6
                            26 to 35 min . . . . . .2     1 hr 46 min to 2 hrs 30 min . . . . . .7
                            36 to 45 min . . . . . .3     2 hrs 31 min to 4 hrs . . . . . . . . .8
                            46 min to 1 hr . . . . .4     Over 4 hrs. . . . . . . . . . . . . . .9
                    61 min to 1 hr 15 min  . . . .5


Study:  AFPT 80-032E


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# APPENDIX A

Trait Statements, Means, SDs, and Cross-Validities for Total Sample

N = 244

(Criteria are overall performance and average task performance.)

| | Predictor Rater: Other Supervisor Criterion Rater: Immediate Supervisor | | | | Predictor Rater: Immediate Supervisor Criterion Rater: Other Supervisor | | | |
|---|---|---|---|---|---|---|---|---|
| Trait Statement | M | SD | Ov'l. r | Task r | M | SD | Ov'l. r | Task r |
| 1* Shows even temper. | 6.84 | 1.38 | .507 | .489 | 6.92 | 1.55 | .486 | .415 |
| 2 Is courteous, has good manners. | 6.92 | 1.36 | .544 | .536 | 6.97 | 1.46 | .494 | .387 |
| 3 Can shift attention to unscheduled tasks then back to scheduled tasks without getting confused. | 6.81 | 1.38 | .499 | .451 | 6.87 | 1.49 | .505 | .460 |
| 4* Shows good sense of humor and uses it only at the right time. | 6.65 | 1.46 | .471 | .459 | 6.65 | 1.63 | .524 | .438 |
| 5 Has assured manner; shows self-confidence. | 7.02 | 1.39 | .513 | .458 | 7.03 | 1.53 | .531 | .438 |
| 6 Holds attention of people he is advising or instructing. | 6.56 | 1.44 | .449 | .396 | 6.73 | 1.52 | .501 | .420 |
| 7 Organizes his ideas and tells them clearly when ex-plaining facts or processes. | 6.74 | 1.53 | .469 | .408 | 6.86 | 1.61 | .524 | .451 |
| 8* Shows enthusiasm about the work of his specialty. | 6.88 | 1.39 | .435 | .424 | 6.90 | 1.64 | .536 | .428 |
| 9 Shows that he wants to cooperate with his co-workers or the people under him. | 6.76 | 1.42 | .461 | .459 | 6.78 | 1.71 | .537 | .467 |
| 10 Works under uncomfortable, disagreeable, or annoying conditions without losing self-control. | 6.93 | 1.45 | .468 | .432 | 6.88 | 1.57 | .568 | .499 |
| 11 Spends considerable off-duty time keeping up on matters relating to his work. | 6.76 | 1.54 | .485 | .430 | 6.73 | 1.68 | .526 | .459 |

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Appendix A cont.

| Item | Statement | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 12* | Likes to discuss anything at length (Examples: Girls, sports, politics). | 6.96 | 1.51 | .485 | .457 | 6.94 | 1.59 | .512 | .454 |
| 13 | Can work alone without the help of others. | 7.09 | 1.55 | .511 | .489 | 7.00 | 1.65 | .495 | .451 |
| 14 | Puts others at ease and removes tensions and pressures on those working around him. | 6.76 | 1.38 | .493 | .455 | 6.78 | 1.51 | .475 | .419 |
| 15 | Corrects or criticizes without scolding or nagging. | 6.74 | 1.47 | .476 | .477 | 6.80 | 1.60 | .542 | .473 |
| 16 | Breaks in new personnel skillfully, so that they are quickly able to work alone. | 6.93 | 1.52 | .523 | .505 | 6.99 | 1.62 | .551 | .484 |
| 17* | Keeps his co-workers and subordinates informed regarding decisions which affect them. | 6.75 | 1.44 | .520 | .513 | 6.80 | 1.52 | .552 | .484 |
| 18 | Listens to complaints and suggestions of the men for whom he is responsible and supports them when justified. | 6.66 | 1.40 | .538 | .547 | 6.64 | 1.56 | .520 | .457 |
| 19 | Accomplishes large amounts of work in a short time (Think only about how much, not about how well it is done). | 6.13 | 1.74 | .380 | .424 | 6.20 | 1.74 | .499 | .434 |
| 20* | Shows a perfectionist attitude toward work, wants each detail exactly right. | 6.79 | 1.49 | .529 | .481 | 6.98 | 1.54 | .534 | .520 |
| 21* | Has good military bearing, neatness, cleanliness, attractiveness. | 6.88 | 1.54 | .498 | .525 | 6.96 | 1.55 | .500 | .459 |
| 22 | Makes up his mind quickly. | 6.03 | 1.47 | .390 | .368 | 6.07 | 1.45 | .486 | .426 |
| 23 | Works hard to get the job done quickly. | 7.14 | 1.30 | .462 | .443 | 7.14 | 1.55 | .543 | .487 |
| 24 | Tries out new methods of doing things. | 6.14 | 1.57 | .404 | .385 | 6.14 | 1.64 | .459 | .397 |
| 25 | Enjoys keeping busy and looks for little jobs in order not to be idle. | 6.60 | 1.52 | .491 | .503 | 6.73 | 1.59 | .542 | .463 |
| 26 | Is resourceful in meeting emergencies; finds ways to overcome unexpected situations. | 7.34 | 1.40 | .460 | .417 | 7.35 | 1.59 | .510 | .449 |
| 27 | Is able to apply theory and principles in order to get tasks done (Examples: Uses formulas in chemical analyses, encodes crypto messages, writes computer programs, predicts weather from data). | 7.11 | 1.40 | .538 | .470 | 7.24 | 1.60 | .508 | .435 |

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| # | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 28 | Works on monotonous tasks without complaining. | 6.63 | 1.45 | .513 | .493 | 6.79 | 1.50 | .581 | .479 |
| 29 | Does a particular task in the specialty outstandingly well (not necessarily exceptional at other tasks). | 7.01 | 1.44 | .460 | .374 | 7.20 | 1.51 | .537 | .504 |
| 30 | Applies short-cut methods and labor saving schemes. | 7.01 | 1.36 | .465 | .436 | 6.99 | 1.45 | .504 | .512 |
| 31 | Sticks to a decision once it's made. | 6.73 | 1.39 | .465 | .466 | 6.75 | 1.53 | .503 | .489 |
| 32 | Is prompt in beginning and completing work assignments. | 6.68 | 1.42 | .455 | .454 | 6.75 | 1.55 | .508 | .456 |
| 33* | Watches for safety hazards and reports or corrects them immediately. | 6.82 | 1.37 | .464 | .467 | 6.83 | 1.55 | .571 | .524 |
| 34 | Shows that he knows SOPs or terms and technical words. | 6.66 | 1.62 | .494 | .472 | 6.76 | 1.73 | .548 | .460 |
| 35 | Is competent at several different jobs within the specialty. | 6.74 | 1.46 | .474 | .485 | 6.82 | 1.60 | .519 | .498 |
| 36 | Is good at organizing the work assignments and work flow within a group. | 6.77 | 1.48 | .520 | .535 | 6.84 | 1.57 | .529 | .522 |
| 37 | Shows eagerness to cooperate with superiors. | 7.47 | 1.40 | .437 | .364 | 7.43 | 1.45 | .473 | .428 |
| 38 | Works in an orderly and methodical way. | 6.75 | 1.39 | .490 | .471 | 6.87 | 1.50 | .563 | .492 |
| 39 | Uses technical know-how to help work groups understand what to do. | 6.94 | 1.39 | .418 | .418 | 6.97 | 1.70 | .515 | .444 |
| 40 | Checks up regularly on the progress and quality of his men's work, not relying on secondhand information. | 7.09 | 1.39 | .512 | .490 | 7.10 | 1.54 | .553 | .484 |
| 41 | Concentrates completely on what he is doing, not letting anything interrupt his work. | 6.68 | 1.39 | .469 | .480 | 6.73 | 1.56 | .547 | .489 |
| 42 | Follows directives and printed authority carefully. | 6.89 | 1.49 | .388 | .372 | 7.00 | 1.58 | .498 | .468 |

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Appendix A cont.

| # | | Mean | SD | | | Mean | SD | | |
|---|---|---|---|---|---|---|---|---|---|
| 43 | Makes wise choices of techniques of work when there are several ways of doing a job (can be rated only for men who have tasks that allow for choices). | 6.52 | 1.43 | .432 | .424 | 6.55 | 1.62 | .443 | .444 |
| 44 | Invents or finds improved ways of doing work. | 6.84 | 1.37 | .386 | .359 | 6.99 | 1.56 | .524 | .442 |
| 45 | Computes quickly and easily (can be rated only for men whose tasks require arithmetic). | 6.74 | 1.47 | .501 | .498 | 6.80 | 1.65 | .515 | .494 |
| 46 | Understands complicated instructions, whether written or oral. | 7.19 | 1.42 | .475 | .406 | 7.17 | 1.56 | .545 | .518 |
| 47 | Uses ordinary tools with skill, not clumsy (Examples: Drives nails cleanly, doesn't drop things, doesn't smudge papers, etc.). | 6.91 | 1.27 | .484 | .402 | 6.87 | 1.56 | .519 | .483 |
| 48 | Shows that he knows much about science, math, or engineering, whether it's useful on the job or not. | 7.16 | 1.43 | .471 | .434 | 7.13 | 1.64 | .538 | .484 |
| 49* | Can read and apply new technical directives and policy statements relating to the specialty. | 6.70 | 1.43 | .508 | .491 | 6.75 | 1.54 | .491 | .447 |
| 50 | Sees objects quickly and accurately (Examples: Reads gauges correctly; judges sizes well, spots loose connections, faults, damage, typing errors, arithmetic mistakes, etc.). | 6.77 | 1.47 | .462 | .448 | 6.87 | 1.64 | .480 | .448 |
| 51 | Accepts suggested changes in his way of working. | 6.71 | 1.37 | .502 | .507 | 6.80 | 1.54 | .555 | .468 |
| 52 | Stays healthy and free from lost time due to illness. | 6.52 | 1.44 | .460 | .461 | 6.58 | 1.51 | .448 | .390 |
| 53 | Works more than one shift or extended overtime without bad effects, such as illness, fatigue, extreme grouchiness, etc. | 6.75 | 1.39 | .505 | .516 | 6.75 | 1.49 | .520 | .471 |
| 54 | Remembers details about things seen, read, heard, or done (Examples: Remembers how many parts were ordered, remembers the day he was given an order, how a regulation was worded, etc.). | 7.34 | 1.42 | .544 | .471 | 7.39 | 1.51 | .519 | .492 |

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Appendix A cont.

| No. | Item | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 55 | Does correctly a long job with many connected steps leading to a special result (Examples: Balances books over six months sales, runs a manystaged test of materials, rebores and reassembles an auto engine). | 6.67 | 1.36 | .518 | .496 | 6.80 | 1.53 | .499 | .482 |
| 56 | Plans a series of actions with several steps that must be carried out in detail to reach a result (Example: Arranges a TDY mission with several stops). | 6.61 | 1.45 | .512 | .481 | 6.56 | 1.65 | .502 | .462 |
| 57 | Assists others willingly when working as a member of a group. | 7.18 | 1.35 | .531 | .489 | 7.16 | 1.55 | .527 | .480 |
| 58 | Shows mature behavior, attitudes, judgment. | 6.91 | 1.47 | .464 | .488 | 6.98 | 1.61 | .516 | .486 |
| 59 | Plans his own work to use his time efficiently. | 6.79 | 1.40 | .479 | .466 | 6.86 | 1.57 | .557 | .492 |
| 60 | Spots problems before they happen, finding ways to prevent them (Examples: Foresees that unit will be short-handed, that supplies will run out, or that there will be a safety hazard, etc.). | 6.60 | 1.50 | .512 | .482 | 6.58 | 1.62 | .529 | .510 |
| 61 | Can be trusted to do his best to get a job done, even though there is no way to check up on him (consider only how hard he tries, not how good he is at the job). | 6.81 | 1.42 | .277 | .252 | 6.91 | 1.52 | .336 | .338 |
| 62 | Goes directly to the exact location of anything related to the work, whether it is parts, equipment, materials, or facts (Examples: Knows where a part is located in a plane, or where an authority letter has been filed). | 6.66 | 1.46 | .486 | .449 | 6.84 | 1.52 | .493 | .477 |
| 63* | Can tell which men are doing good work and uses the information fairly (must meet both conditions). | 6.75 | 1.48 | .511 | .517 | 6.90 | 1.56 | .503 | .501 |
| 64 | Finds ways to save materials. | 6.77 | 1.37 | .471 | .452 | 6.82 | 1.60 | .519 | .458 |
| 65 | Understands easily graphs, charts, diagrams, or pictures (Examples: Traces electronic circuits, assembles units from diagram, reads weather charts). | 6.75 | 1.40 | .471 | .444 | 6.82 | 1.58 | .501 | .466 |

24

GENERAL INSTRUCTIONS

You are being asked to rate the man whose name appears on the
packets in front of you. This is part of a study conducted by the
Personnel Research Laboratory to improve job assignments. Your
ratings are absolutely confidential, and will not be used to the
advantage or disadvantage of any unit or individual.


1. Set Packet 2 aside until Packet 1 is completed and sealed.

2. Start Packet 1 by carefully reading the instructions inside the
Packet 1 envelope.

## INSTRUCTIONS FOR PACKET 1 (White Booklet)

1.  Note the time you start.  Fill in the cover with the requested information.

2.  CHECK LIST.  use checks to complete the CHECK LIST on page 2. Check all items using <u>either</u> the YES or NO column.

3.  PERFORMANCE RATING.  Compare this man with all other men in the same position.  Use the scale and select a rating level.  Put the rating (between 1 and 9) in the space marked RATING.  The confidence rating is optional, but the performance rating is required.

4.  QUESTIONS AND DATE.  Check YES or NO for the two questions on page 3, and fill in the date.

5.  FEATURES or QUALIFICATIONS.  From the scale on page 3 select a level rating and place it under RATING <u>or</u> GUESSED RATING for <u>each</u> of the 65 traits listed.  Disregard the terms above the bar such as "good performer" or "average performer".  Use RATING if you observe the trait in the man, and GUESSED RATING if you do not observe the trait or do not think it is applicable to the man's job.

6.  TIME.  On the cover, circle the closest estimate of the time you spent in filling out Packet 1, less interruptions.

7.  Seal the booklet in the Packet 1 envelope.

8.  Begin Packet 2 (Green Inventory) by carefully reading the instructions inside the Packet 2 envelope.

**Name of Ratee**

Card 01:  Case Control Number _____
                                          1-4

| Last Name | 5-22 | First Name | Initial |

Grade   23

PREFIX 24-25    AFSN   NUMBER 26-33

PREFIX 34    DAFSC   NUMBER 35-39 SUFFIX 40

Air Command   41

Organization   42-68                Base   69-72

Assignment                Card 02:  (CASE NUMBER 1-4)   5-73


**Name of Rater**

Card 03:  (CASE NUMBER 1-4)

Name of Rater _____   Grade _____
            Last      5-22    First      Initial            23

AFSN _____   Duty AFSC _____
        PREFIX 24-25    NUMBER 26-33              PREFIX 34    NUMBER 35-39    SUFFIX 40

Job Title _____
                              NO PUNCH

_____
                              NO PUNCH

Base _____
                41-44

Address where personal communication can be sent   _____
                                                          NO PUNCH

_____
                NO PUNCH          Time Scale (Encircle)

            25 min or less. . . . .1      1 hr 16 min to 1 hr 45 min. . . . . ..6
            26 to 35 min . . . . . .2      1 hr 46 min to 2 hrs 30 min . . . . . .7
            36 to 45 min . . . . . .3      2 hrs 31 min to 4 hrs . . . . . . . . . .8
            46 min to 1 hr . . . . .4      Over 4 hrs. . . . . . . . . . . . . . . .9
        61 min to 1 hr 15 min . . . .5


Study:  AFPT 80-032E


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## Check List

1.  I see (or saw) this man daily while he performs(ed) his duties.                                    Yes____ No____ 45

2.  I see (or saw) the products of this man's work.                                                     Yes____ No____ 46

3.  Personnel who supervise(d) this man reported to me on his performance.                              Yes____ No____ 47

4.  I have (or had) reports of this man's performance from his co-workers.                              Yes____ No____ 48

5.  I see (or saw) this man at work occasionally (three or four times a month).                         Yes____ No____ 49

6.  I see (or saw) various kinds of statistical records of this man's output.                           Yes____ No____ 50

7.  I always see (or saw) this man working as part of a team or crew, and never alone.                  Yes____ No____ 51

8.  I frequently see (or saw) this man working as part of a team and also saw him working alone or on an individual project.   Yes____ No____ 52

9.  My information about this man is chiefly based on the products of a team or crew of which he is (or was) a member.         Yes____ No____ 53

10. My information about this man is chiefly based on the products of more than one team or crew which work successively on the tasks to which he is (or was) assigned.   Yes____ No____ 54

11. Information about this man which deals with teams or crews is based upon his performance
.   as leader or supervisor of such groups.                                                             Yes____ No____ 55

A

Rating    Confidence

Overall job performance rating    _____    _____
                                      56           57

Date _____

Rating is current and ratee is available.    Yes_____    No_____ 58

Rating is after ratee was reassigned.    Yes_____    No_____ 59

(FOR LAB USE) _____
                  73

AVERAGE
PERFORMER

28
MEN
OUT
OF
100

FAIR
PERFORMER

GOOD
PERFORMER

20
MEN
OUT
OF
100

20
MEN
OUT
OF
100

POOR
PERFORMER

EXCELLENT
PERFORMER

10
MEN
OUT
OF
100

10
MEN
OUT
OF
100

VERY POOR
PERFORMER

SUPERIOR
PERFORMER

5
MEN
OUT
OF
100

5
MEN
OUT
OF
100

WORST
MAN

OUTSTANDING
PERFORMER

1 MAN    1 MAN

LEVEL    LEVEL    LEVEL    LEVEL    LEVEL    LEVEL    LEVEL    LEVEL    LEVEL
1        2        3        4        5        6        7        8        9
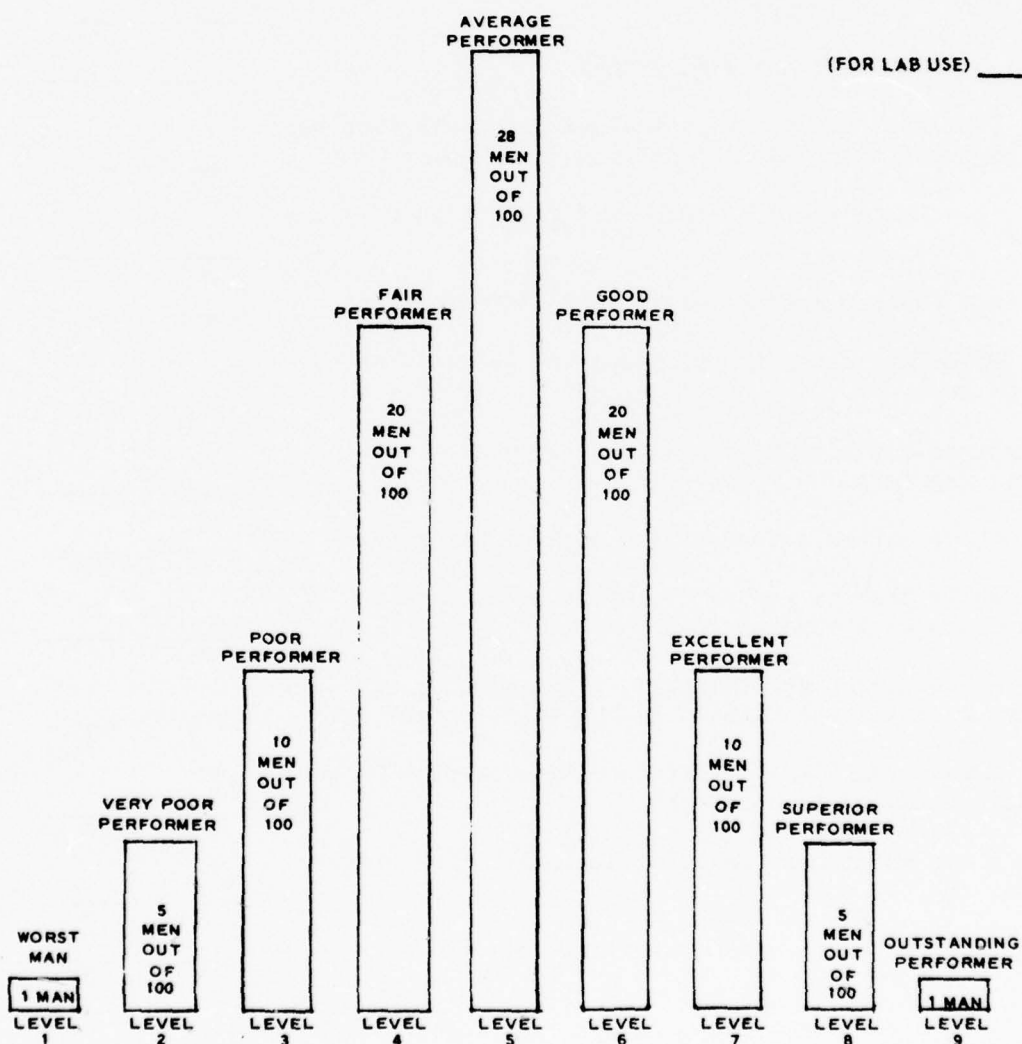
**RATING SCALE**

(SHOWING HOW 100 MEN SELECTED AT RANDOM WOULD BE RATED)

|  | Guessed Rating (Either Not Observed or Not Applicable) | Rating |
|---|---|---|
| Features or Qualifications | | |
| 1. Shows even temper. | 5 | 6 |
| 2. Is courteous, has good manners. | 7 | 8 |
| 3. Can shift attention to unscheduled tasks then back to scheduled tasks without getting confused. | 9 | 10 |
| 4. Shows good sense of humor and uses it only at the right time. | 11 | 12 |
| 5. Has assured manner; shows self-confidence. | 13 | 14 |
| 6. Holds the attention of people he is advising or instructing. | 15 | 16 |
| 7. Organizes his ideas and tells them clearly when explaining facts or processes. | 17 | 18 |
| 8. Shows enthusiasm about the work of his specialty. | 19 | 20 |
| 9. Shows that he wants to cooperate with his co-workers or the people under him. | 21 | 22 |
| 10. Works under uncomfortable, disagreeable, or annoying conditions without losing self-control. | 23 | 24 |
| 11. Spends considerable off-duty time keeping up on matters relating to his work. | 25 | 26 |
| 12. Likes to discuss anything at length (Examples: girls, sports, politics). | 27 | 28 |
| 13. Can work alone without the help of others. | 29 | 30 |

A

30

|  | Guessed Rating (Either Not Observed or Not Applicable) | Rating |
|---|---|---|

14. Puts others at ease and removes tensions and pressures on those working around him.

___31___ ___32___

15. Corrects or criticizes without scolding or nagging.

___33___ ___34___

16. Breaks in new personnel skillfully, so that they are quickly able to work alone.

___35___ ___36___

17. Keeps his co-workers and subordinates informed regarding decisions which affect them.

___37___ ___38___

18. Listens to complaints and suggestions of the men for whom he is responsible and supports them when justified.

___39___ ___40___

19. Accomplishes large amounts of work in a short time (Think only about how much, not about how well it is done).

___41___ ___42___

20. Shows a perfectionist attitude toward work, wants each detail exactly right.

___43___ ___44___

21. Has good military bearing, neatness, cleanliness, attractiveness.

___45___ ___46___

22. Makes up his mind quickly.

___47___ ___48___

23. Works hard to get the job done quickly.

___49___ ___50___

24. Tries out new methods of doing things.

___51___ ___52___

25. Enjoys keeping busy and looks for little jobs in order not to be idle.

___53___ ___54___

26. Is resourceful in meeting emergencies; finds ways to overcome unexpected situations.

___55___ ___56___

A

| | Guessed Rating (Either Not Observed or Not Applicable) | Rating |
|---|---|---|

27. Is able to apply theory and principles in order to get tasks done (Examples: Uses formulas in chemical analyses, encodes crypto messages, writes computer programs, predicts weather from data).

| 57 | 58 |
|---|---|

28. Works on monotonous tasks without complaining.

| 59 | 60 |
|---|---|

29. Does a particular task in the specialty outstandingly well (not necessarily exceptional at other tasks).

| 61 | 62 |
|---|---|

30. Applies short-cut methods and labor saving schemes.

| 63 | 64 |
|---|---|

31. Sticks to a decision once it's made.

| 65 | 66 |
|---|---|

32. Is prompt in beginning and completing work assignments.

| 67 | 68 |
|---|---|

33. Watches for safety hazards and reports or corrects them immediately.

| 69 | 70 |
|---|---|

34. Shows that he knows SOPs or terms and technical words.

| 71 | 72 |
|---|---|

35. Is competent at several different jobs within the specialty.

| 5 | 6 | CARD 05 |
|---|---|---|

36. Is good at organizing the work assignments and work flow within a group.

| 7 | 8 |
|---|---|

37. Shows eagerness to cooperate with superiors.

| 9 | 10 |
|---|---|

38. Works in an orderly and methodical way.

| 11 | 12 |
|---|---|

39. Uses technical know-how to help work groups understand what to do.

| 13 | 14 |
|---|---|

A

| | Guessed Rating (Either Not Observed or Not Applicable) | Rating |
|---|---|---|

40. Checks up regularly on the progress and quality of his men's work, not relying on secondhand information.

        15        16

41. Concentrates completely on what he is doing, not letting anything interrupt his work.

        17        18

42. Follows directives and printed authority carefully.

        19        20

43. Makes wise choices of techniques of work when there are several ways of doing a job (can be rated only for men who have tasks that allow for choices).

        21        22

44. Invents or finds improved ways of doing work.

        23        24

45. Computes quickly and easily (can be rated only for men whose tasks require arithmetic).

        25        26

46. Understands complicated instructions, whether written or oral.

        27        28

47. Uses ordinary tools with skill, not clumsily (Examples: Drives nails cleanly, doesn't drop things, doesn't smudge papers, etc.).

        29        30

48. Shows that he knows much about science, math, or engineering, whether it's useful on the job or not.

        31        32

49. Can read and apply new technical directives and policy statements relating to the specialty.

        33        34

50. Sees objects quickly and accurately (Examples: Reads gauges correctly; judges sizes well; spots loose connections, faults, damage, typing errors, arithmetic mistakes, etc.).

        35        36

51. Accepts suggested changes in his way of working.

<u>37</u>  <u>38</u>

52. Stays healthy and free from lost time due to illness.

<u>39</u>  <u>40</u>

53. Works more than one shift or extended overtime without bad effects, such as illness, fatigue, extreme grouchiness, etc.

<u>41</u>  <u>42</u>

54. Remembers details about things seen, read, heard, or done (Examples: Remembers how many parts were ordered, remembers the day he was given an order, how a regulation was worded, etc.).

<u>43</u>  <u>44</u>

55. Does correctly a long job with many connected steps leading to a special result (Examples: Balances books over six months sales, runs a many-staged test of materials, rebores and reassembles an auto engine).

<u>45</u>  <u>46</u>

56. <u>Plans</u> a series of actions with several steps that must be carried out in detail to reach a result (Example: Arranges a TDY mission with several stops).

<u>47</u>  <u>48</u>

57. Assists others willingly when working as a member of a group.

<u>49</u>  <u>50</u>

58. Shows mature behavior, attitudes, or judgment.

<u>51</u>  <u>52</u>

59. Plans his own work to use his time efficiently.

<u>53</u>  <u>54</u>

60. Spots problems before they happen, finding ways to prevent them (Examples: Foresees that unit will be shorthanded, that supplies will run out, or that there will be a safety hazard, etc.).

<u>55</u>  <u>56</u>

A

|  | Guessed Rating (Either Not Observed or Not Applicable) | Rating |
|---|---|---|

61. Can be trusted to do his best to get a job done, even though there is no way to check up on him (consider only how hard he tries, <u>not</u> how good he is at the job).

|  | 57 | 58 |
|---|---|---|

62. Goes <u>directly</u> to the exact location of anything related to the work, whether it is parts, equipment, materials, or facts (Examples: Knows where a part is located in a plane, or where an authority letter has been filed).

|  | 59 | 60 |
|---|---|---|

63. Can tell which men are doing good work and uses the information fairly (must meet <u>both</u> conditions).

|  | 61 | 62 |
|---|---|---|

64. Finds ways to save materials.

|  | 63 | 64 |
|---|---|---|

65. Understands easily graphs, charts, diagrams, or pictures (Examples: Traces electronic circuits, assembles units from diagram, reads weather charts).

|  | 65 | 66 |
|---|---|---|

A

*APPENDIX B:* INSTRUCTIONS AND EXTRACTS OF PACKET 2

**Name of Ratee**

Card 01:  Case Control Number _____
                                                        1-4

_____
          Last Name              5-22        First Name                    Initial

_____
          Grade    23

PREFIX 24-25    AFSN  NUMBER 26-33
_____

PREFIX 34    DAFSC  NUMBER 35-39 SUFFIX 40
_____

          Air Command   41
_____

_____        _____
          Organization  42-68                                Base  69-72

_____
          Assignment                    Card 02:  (CASE NUMBER 1-4)    5-73


**Name of Rater**

Card 03:  (CASE NUMBER 1-4)

Name of Rater  _____  Grade _____
               Last      5-22      First          Initial                      23

AFSN _____  Duty AFSC _____
         PREFIX 24-25    NUMBER 26-33                  PREFIX 34    NUMBER 35-39    SUFFIX 40

Job Title _____
                                        NO PUNCH

_____
                                        NO PUNCH

Base _____
                        41-44

Address where personal communication can be sent    _____
                                                              NO PUNCH

_____
              NO PUNCH                  Time Scale (Encircle)

                              25 min or less. . . . .1      1 hr 16 min to 1 hr 45 min. . . . . ..6
                              26 to 35 min . . . . . .2      1 hr 46 min to 2 hrs 30 min . . . . . .7
                              36 to 45 min . . . . . .3      2 hrs 31 min to 4 hrs. . . . . . . . .8
                              46 min to 1 hr . . . . .4      Over 4 hrs. . . . . . . . . . . . . . .9
                        61 min to 1 hr 15 min . . . .5


Study:  AFPT 80-032E


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INSTRUCTIONS FOR PACKET 2 (Green Inventory)

1. Note the time you start. Place your name, grade, and service number (or civilian level) on the cover.

2. Look at the EXAMPLE SHEET to see how the completed inventory page should appear.

3. DOES TASK SCALE. Use the scale at the top of the first column to rate the man on the tasks you are certain that he performs. Place the appropriate number (between 1 and 7) in the first column across from the task statement. Leave blanks for tasks he does not perform.

    A. Add and rate any tasks the ratee performs which have been left out.

    B. Omit tasks you do not understand by placing an X in the first column.

4. TRAINING REQUIRED SCALE. Using the scale at the top of column two, estimate the training the ratee would need to reach average performance.

    A. Rate all the tasks listed except those you do not understand.

    B. This rating includes those tasks you have already given a DOES TASK rating.

5. Answer the YES-NO question on page 23.

6. On the cover, circle the time (less interruptions) required for you to complete the inventory.

7. Insert the Packet 2 inventory and Packet 1 inside the Packet 2 envelope, seal, and return to the Test Control Officer you received the materials from.

# UNITED STATES AIR FORCE

# JOB INVENTORY

## SPECIAL RESEARCH STUDY OF CAPABILITY TO PERFORM TASKS

Time Scale (Encircle)

45 min or less . . . . . . . . . . . . . 1
46 min to 1 hr . . . . . . . . . . . . . 2
61 min to 1 hr 30 min . . . . . . . . . 3
1 hr 31 min to 2 hrs . . . . . . . . . . 4
2 hrs 1 min to 2 hrs 31 min . . . . . 5
2 hrs 31 min to 3 hrs . . . . . . . . . 6
Over 3 hrs . . . . . . . . . . . . . . . . 7

INVENTORY MANAGEMENT CAREER LADDER

AFSC 645X0

CASE CONTROL

NO. _____

RATEE _____

RATER _____

MATERIEL FACILITIES CAREER LADDER

AFSC 647X0

| JOB INVENTORY *(Duty—Task List)* | AFSC 645X0 647X0 | PAGE 5 OF 23 PAGES |
|---|---|---|

For the tasks listed below, make a <u>performance</u> rating for any task that is performed by your ratee. Add and rate any tasks he performs that are missing. Then, make a <u>training req.</u> rating for <u>every</u> task listed.

| | PERFORMANCE DOES TASK | TRAINING REQ. TO DO TASK |
|---|---|---|
| | 1. UNSATISFAC-TORILY<br>2. FAIRLY WELL<br>3. SLIGHTLY BELOW AVERAGE<br>4. ABOUT AVERAGE<br>5. SLIGHTLY ABOVE AVERAGE<br>6. EXCEPTIONALLY WELL<br>7. BETTER THAN ANYONE | 1. MORE THAN 2 YEARS TRAINING<br>2. VERY LONG TRAINING<br>3. MUCH TRAINING<br>4. MODERATE TRAINING<br>5. LITTLE TRAINING<br>6. VERY LITTLE TRAINING<br>7. COULD DO IT NOW |

**DUTY**
**C. Evaluating**

| TASKS INCLUDED IN ABOVE DUTY | | |
|---|---|---|
| 1. Compile management data for use in evaluation of supply program | | |
| 2. Draft recommended changes in technical orders, manuals, handbooks, or operating procedures | | |
| 3. Evaluate adequacy of inspection | | |
| 4. Evaluate adherence to the Hi-Valu program | | |
| 5. Evaluate controls and procedures used in the support of special projects | | |
| 6. Evaluate measures employed to safeguard classified materials and equipment | | |
| 7. Evaluate measures employed to secure property against theft or damage | | |
| 8. Evaluate the maintenance of tools, equipment, and supplies | | |
| 9. Evaluate unit activities for issuing, shipping, and transferring property | | |
| 10. Evaluate unit activities for receiving property | | |
| 11. Evaluate unit activities for storing property | | |
| 12. Evaluate unit equipment authorization and support activities | | |
| 13. Evaluate unit inventorying activities | | |
| 14. Evaluate unit maintenance of publications and files | | |
| 15. Evaluate unit maintenance support activities | | |
| 16. Evaluate unit performance through review of Not Operationally Ready, Supply (NORS) and other reports | | |
| 17. Evaluate unit pick-up and delivery activities | | |
| 18. Evaluate unit safety practices | | |
| 19. Evaluate unit stock control activities | | |
| | | |
| | | |
| | | |
| | | |

PRB FORM 1

For the tasks listed below, make a **performance** rating for any task that is performed by your ratee. Add and rate any tasks he performs that are missing. Then, make a **training req.** rating for **every** task listed.

| | PERFORMANCE<br>DOES TASK | TRAINING REQ.<br>TO DO TASK |
|---|---|---|
| | 1. UNSATISFAC-<br>TORILY<br>2. FAIRLY WELL<br>3. SLIGHTLY BELOW<br>AVERAGE<br>4. ABOUT AVERAGE<br>5. SLIGHTLY ABOVE<br>AVERAGE<br>6. EXCEPTIONALLY<br>WELL<br>7. BETTER THAN<br>ANYONE | 1. MORE THAN 2<br>YEARS TRAINING<br>2. VERY LONG<br>TRAINING<br>3. MUCH TRAINING<br>4. MODERATE<br>TRAINING<br>5. LITTLE TRAINING<br>6. VERY LITTLE<br>TRAINING<br>7. COULD DO IT<br>NOW |

**DUTY**

E. Inspecting Property and Determining Its Condition

**TASKS INCLUDED IN ABOVE DUTY**

| | | | |
|---|---|---|---|
| 1. | Accept or reject property on the basis of procurement specifications | | |
| 2. | Compare identity, condition, and quantity of property with information in receiving documents | | |
| 3. | Conduct follow-up inspections | | |
| 4. | Conduct special-subject inspections | | |
| 5. | Designate items for disposal | | |
| 6. | Designate items requiring refrigerated storage | | |
| 7. | Determine cause of unserviceable condition of property | | |
| 8. | Determine interchangeability of items | | |
| 9. | Enter re-inspection and cure dates on supplies or equipment | | |
| 10. | Identify items to be transferred | | |
| 11. | Identify parts of complete assemblies | | |
| 12. | Identify War Readiness Materiel to prevent unauthorized movement or issue | | |
| 13. | Initiate issue requests for items needed to complete assemblies | | |
| 14. | Initiate stock change documents for misidentified items | | |
| 15. | Inspect containers and labels of corrosive, volatile, combustible, or poisonous materials | | |
| 16. | Inspect historical or configuration control records for property in storage | | |
| 17. | Inspect items in storage for signs of corrosion, decay, or deterioration | | |
| 18. | Inspect property for repairs or replacements | | |
| 19. | Inspect stored property to see that load limits and security conditions are met | | |
| 20. | Inspect turn-in items | | |
| 21. | Prepare discrepancy reports or initiate adjustment action for items in shipments | | |
| 22. | Prepare information for EAM cards for condition or identify changes | | |
| 23. | Prepare inspection reports | | |

PRB FORM 1

Does this man have an additional assignment not covered by the
inventory which takes up as much as 1/4 of his time?

Yes ____ No ____

If answered "yes," describe this assignment briefly:

RATEE _____

RATER _____

## NOTICE

When ratings have been made, the information contained in this packet becomes privileged. The packet is not to be opened until it reaches the Personnel Research Laboratory. Base agencies are relieved of responsibility for corrections, and subsequent communications *will be between the laboratory and the individual rater, if such are required.*

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INSTRUCTIONS

1. To qualify for this survey you must have a Duty AFSC of 64530, 64550, 64570, 64590, 64730, 64750, 64770, or 64790 and you must have been in the same duty assignment for at least six weeks.

2. First, fill in the BACKGROUND INFORMATION pages. Then turn to DUTY A on page 1 of your booklet and read the entire inventory to see how well your job is covered. Be sure to read all the tasks under every duty. As you read, place a check mark in the Check column beside each task you do. Do not confuse work you do yourself with work you supervise. The first duties in the inventory are supervising duties. These are followed by work performance duties. If you supervise some tasks and also perform tasks yourself, you will check both kinds of tasks.

3. In the blank spaces at the end of the list of tasks under each duty, write in all the tasks you do in that duty that are not listed. If some tasks you perform do not fit under any of the duties in the booklet, write them on the blank pages at the end of the booklet.

4. Turn back to DUTY A on page 1 again. You are now to make TIME SPENT ratings for all the tasks you have checked or added. Time Spent means the time you spend doing the task you are rating, compared with the time you spend on each of the other tasks you do. Use the 7-point TIME SPENT scale at the top of each page. Use the rating 1 if you spend very much below average time on a task; use 2 for below average time; and so on up to a rating of 7 if you spend very much above average time on the task.

5. When you have finished the TIME SPENT ratings turn back to DUTY A on page 1 again. You are now to indicate the training emphasis that should be given the tasks you checked or added. Using the TRAINING EMPHASIS scale at the top of each page, rate a task 1 if it should be given almost no training emphasis; rate a task 2 if it should be given very little training emphasis; and so on up to a rating of 7 if the task should be given extreme emphasis in training.

## BACKGROUND INFORMATION (Continued)

PLEASE PRINT INFORMATION REQUESTED AND CHECK APPLICABLE BLANKS

DID YOU COMPLETE:                                                                                 (CARD 03)

| | YES NO | | YES NO |
|---|---|---|---|
| BASIC INVENTORY MANAGEMENT COURSE? | ☐ 12 ☐ | CDC 64000, BASIC SUPPLY? | ☐ 18 ☐ |
| INVENTORY MANAGEMENT SUPERVISOR COURSE? | ☐ 13 ☐ | CDC 64100, STANDARDIZED BASE LEVEL SUPPLY SYSTEM? | ☐ 19 ☐ |
| BASIC MATERIEL FACILITIES COURSE? | ☐ 14 ☐ | CDC 64550, INVENTORY MANAGEMENT SPECIALIST? | ☐ 20 ☐ |
| SUPPLY EDPE COURSE? | ☐ 15 ☐ | CDC 64650, ORGANIZATIONAL SUPPLY SPECIALIST? | ☐ 21 ☐ |
| BASE LEVEL MANAGEMENT COURSE? | ☐ 16 ☐ | CDC 64750, MATERIEL FACILITIES SPECIALIST? | ☐ 22 ☐ |
| | | OTHER SPECIAL SUPPLY COURSES? | ☐ 23 ☐ |
| NCO ACADEMY? | ☐ 17 ☐ | SPECIFY . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . | |

| NAME OF IMMEDIATE SUPERVISOR LAST NAME | FIRST NAME | MIDDLE INITIAL | GRADE |
|---|---|---|---|
| | | | |

| NAME OF NEXT MOST IMMEDIATE SUPERVISOR LAST NAME | FIRST NAME | MIDDLE INITIAL | GRADE |
|---|---|---|---|
| | | | |

| NAME OF ADDITIONAL INDIVIDUAL WHO OBSERVES YOUR WORK REGULARLY LAST NAME | FIRST NAME | MIDDLE INITIAL | GRADE |
|---|---|---|---|
| | | | |

EQUIPMENT USED:  USING THE RATING SCALE BELOW, SHOW HOW MUCH YOU USE EACH ITEM OF EQUIPMENT BY          (CARD 03)
WRITING IN EACH BLOCK A NUMBER FROM 0 TO 6

RATING SCALE

6 - CONSTANTLY USED
5 - VERY FREQUENTLY USED
4 - FREQUENTLY USED
3 - FAIRLY FREQUENTLY USED
2 - OCCASIONALLY USED
1 - SELDOM USED
0 - NOT USED

| BALER | ☐ 24 | FORKLIFT | ☐ 32 | REMOTE OUTPUT-INPUT DEVICE (TELETYPE) | ☐ 40 |
|---|---|---|---|---|---|
| BINDER | ☐ 25 | INTERPRETER | ☐ 33 | | |
| CALCULATOR | ☐ 26 | KEY PUNCH | ☐ 34 | THREAD GAUGE | ☐ 41 |
| CALIPER | ☐ 27 | MICROMETER | ☐ 35 | TUG | ☐ 42 |
| CONVEYOR BELT | ☐ 28 | PAINT SPRAYER | ☐ 36 | TYPEWRITER | ☐ 43 |
| CRANE | ☐ 29 | PALLET JACK | ☐ 37 | WAREHOUSE TRACTOR | ☐ 44 |
| DECOLLATOR | ☐ 30 | POWER SAW | ☐ 38 | WIRE AND DRILL GAUGE | ☐ 45 |
| ELECTRIC DRILL | ☐ 31 | PUNCH CARD SORTER | ☐ 39 | | |

## BACKGROUND INFORMATION (Continued)

PLEASE PRINT INFORMATION REQUESTED AND CHECK APPLICABLE BLANKS

PUBLICATIONS USED: USING THE RATING SCALE BELOW SHOW HOW MUCH YOU USE EACH PUBLICATION BY WRITING IN EACH BLOCK A NUMBER FROM 0 to 6.

RATING SCALE

6 - CONSTANTLY USED
5 - VERY FREQUENTLY USED
4 - FREQUENTLY USED
3 - FAIRLY FREQUENTLY USED
2 - OCCASIONALLY USED
1 - SELDOM USED
0 - NOT USED

### AIR FORCE MANUALS   (CARD 04)

| | | | | | |
|---|---|---|---|---|---|
| | | PART TWO, VOL II, AFM 67-1 | ☐ 12 | AFM 172-1 | ☐ 20 |
| AFM 50-23 | ☐ 5 | PART ONE, VOL IV, AFM 67-1 | ☐ 13 | AFM 177-11 | ☐ 21 |
| AFM 65-110 | ☐ 6 | PART TWO, VOL IV, AFM 67-1 | ☐ 14 | AFM 177-206 | ☐ 22 |
| AFM 66-1 | ☐ 7 | VOL VI, AFM 67-1 | ☐ 15 | AFM 181-5 | ☐ 23 |
| AFM 66-17 | ☐ 8 | AFM 67-3 | ☐ 16 | AFM 300-4, VOL I | ☐ 24 |
| PART ONE, VOL 1, AFM 67-1 | ☐ 9 | AFM 67-6 | ☐ 17 | AFM 300-4, VOL III | ☐ 25 |
| PART TWO, VOL 1, AFM 67-1 | ☐ 10 | AFM 67-10 | ☐ 18 | AFM 400-1 | ☐ 26 |
| PART ONE, VOL II, AFM 67-1 | ☐ 11 | AFM 67-11 | ☐ 19 | AFM 400-24 | ☐ 27 |

### AIR FORCE REGULATIONS

| | | | | | |
|---|---|---|---|---|---|
| AFR  0-10 | ☐ 28 | AFR 67-3 | ☐ 31 | AFR 67-44 | ☐ 34 |
| AFR 11-4 | ☐ 29 | AFR 67-6 | ☐ 32 | AFR 400-24 | ☐ 35 |
| AFR 66-7 | ☐ 30 | AFR 67-10 | ☐ 33 | | |

### TECHNICAL ORDERS

| | | | | | |
|---|---|---|---|---|---|
| 0 -1 -01 | ☐ 36 | 00 -20 -3 | ☐ 41 | 00 -35F SERIES | ☐ 46 |
| 0 -1 -02 | ☐ 37 | 00- 20 -2 -1 | ☐ 42 | 00 -85  SERIES | ☐ 47 |
| 0 -2 -1 | ☐ 38 | 00 -20A -1 | ☐ 43 | 00 -110 -N3 | ☐ 48 |
| 00 -5 -1 | ☐ 39 | 00 -20E -1 | ☐ 44 | -4 SERIES | ☐ 49 |
| 00 -5 -2 | ☐ 40 | 00 -20K SERIES | ☐ 45 | | |

### USAF STOCK LISTS, DOD FEDERAL SUPPLY CATALOGS AND RELATED CATALOGING PUBLICATIONS

| | | | |
|---|---|---|---|
| USAF STOCK LISTS | ☐ 50 | C -0 -1 | ☐ 56 |
| ISG STOCK LISTS | ☐ 51 | S -00 -1 -1 | ☐ 57 |
| FEDERAL SUPPLY CATALOGS | ☐ 52 | S -00 -1 -2 | ☐ 58 |
| H2 -1 | ☐ 53 | S -00 -9 | ☐ 59 |
| H2 -3 | ☐ 54 | S -1 | ☐ 60 |
| H4 -1 | ☐ 55 | S -1 -1 | ☐ 61 |
| | | S -2A -1 | ☐ 62 |

### TABLES OF ALLOWANCES

| | |
|---|---|
| T/A 001 | ☐ 63 |
| T/A 006 | ☐ 64 |
| T/A 016 | ☐ 65 |

### OTHERS (SPECIFY)

| LISTED BELOW ARE TASKS INCLUDED IN THIS CAREER LADDER. RATE EACH TASK FOR DIFFICULTY BASED ON TIME NEEDED TO LEARN TO DO THE TASK SATISFACTORILY. THEN GO THROUGH A SECOND TIME AND CHECK THOSE TASKS A LOW ABILITY AIRMAN COULD DO ACCEPTABLY. | DIFFICULTY | | CHECK |
|---|---|---|---|
| | 1 - VERY MUCH BELOW 2 - BELOW AVERAGE 3 - SLIGHTLY BELOW 4 - ABOUT AVERAGE 5 - SLIGHTLY ABOVE 6 - ABOVE AVERAGE 7 - VERY MUCH ABOVE | | √ IF THIS TASK COULD BE DONE ACCEPTABLY BY LOW MENTAL ABILITY AIRMEN |

E. Inspecting Property and Determining Its Condition

| | | | | |
|---|---|---|---|---|
| 1. | Accept or reject property on the basis of procurement specifications | | | |
| 2. | Compare identity, condition, and quantity of property with information in receiving documents | | | |
| 3. | Conduct follow-up inspections | | | |
| 4. | Conduct special-subject inspections | | | |
| 5. | Designate items for disposal | | | |
| 6. | Designate items requiring refrigerated storage | | | |
| 7. | Determine cause of unserviceable condition of property | | | |
| 8. | Determine interchangeability of items | | | |
| 9. | Enter re-inspection and cure dates on supplies or equipment | | | |
| 10. | Identify items to be transferred | | | |
| 11. | Identify parts of complete assemblies | | | |
| 12. | Identify War Readiness Materiel to prevent unauthorized movement or issue | | | |
| 13. | Initiate issue requests for items needed to complete assemblies | | | |
| 14. | Initiate stock change documents for misidentified items | | | |
| 15. | Inspect containers and labels of corrosive, volatile, combustible, or poisonous materials | | | |
| 16. | Inspect historical or configuration control records for property in storage | | | |
| 17. | Inspect items in storage for signs of corrosion, decay, or deterioration | | | |
| 18. | Inspect property for repairs or replacements | | | |
| 19. | Inspect stored property to see that load limits and security conditions are met | | | |
| 20. | Inspect turn-in items | | | |
| 21. | Prepare discrepancy reports or initiate adjustment action for items in shipments | | | |
| 22. | Prepare information for EAM cards for condition or identity changes | | | |
| 23. | Prepare inspection reports | | | |

| JOB INVENTORY<br>*(Duty-Task List)* | AFSC<br>645X0<br>647X0 | Page 8 of 19 Pages | |
|---|---|---|---|

| | DIFFICULTY | CHECK |
|---|---|---|
| LISTED BELOW ARE TASKS INCLUDED IN THIS CAREER LADDER. RATE EACH TASK FOR DIFFICULTY BASED ON TIME NEEDED TO LEARN TO DO THE TASK SATISFACTORILY. THEN GO THROUGH A SECOND TIME AND CHECK THOSE TASKS A LOW ABILITY AIRMAN COULD DO ACCEPTABLY.<br><br>F.   Searching and Maintaining Publications and Files | 1 - VERY MUCH BELOW<br>2 - BELOW AVERAGE<br>3 - SLIGHTLY BELOW<br>4 - ABOUT AVERAGE<br>5 - SLIGHTLY ABOVE<br>6 - ABOVE AVERAGE<br>7 - VERY MUCH ABOVE | √<br>IF THIS TASK COULD BE DONE ACCEPTABLY BY LOW MENTAL ABILITY AIRMEN |

| | | Difficulty | Check |
|---|---|---|---|
| 1. | Maintain card files on non-listed stock numbers | | |
| 2. | Maintain case files on special authorizations | | |
| 3. | Maintain classified files of plans and programs | | |
| 4. | Maintain correspondence files | | |
| 5. | Maintain custody receipt files and registers | | |
| 6. | Maintain document control files and registers for equipment accounts | | |
| 7. | Maintain document control files and registers for supply accounts | | |
| 8. | Maintain file of allowance source documents | | |
| 9. | Maintain files on Technical Order Compliance property | | |
| 10. | Maintain requisition files | | |
| 11. | Maintain stock number directory | | |
| 12. | Maintain supply reference files of directives, technical orders, manuals, stock lists, or catalogs | | |
| 13. | Maintain suspense files | | |
| 14. | Maintain warehouse file for Hi-Valu, classified, or easily stolen items | | |
| 15. | Maintain warehouse file of cure dates for property | | |
| 16. | Maintain warehouse file of locator cards for stored property | | |
| 17. | Make input to file of data concerning basic, detail, and support records | | |
| 18. | Requisition publications | | |
| 19. | Search catalogs or technical publications for item identification and classification | | |
| 20. | Search catalogs or technical publications to determine supply sources | | |
| 21. | Search equipment allowance publications for basis of issue and allowance | | |
| 22. | Search standard publications for supply policies and procedures | | |
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